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13

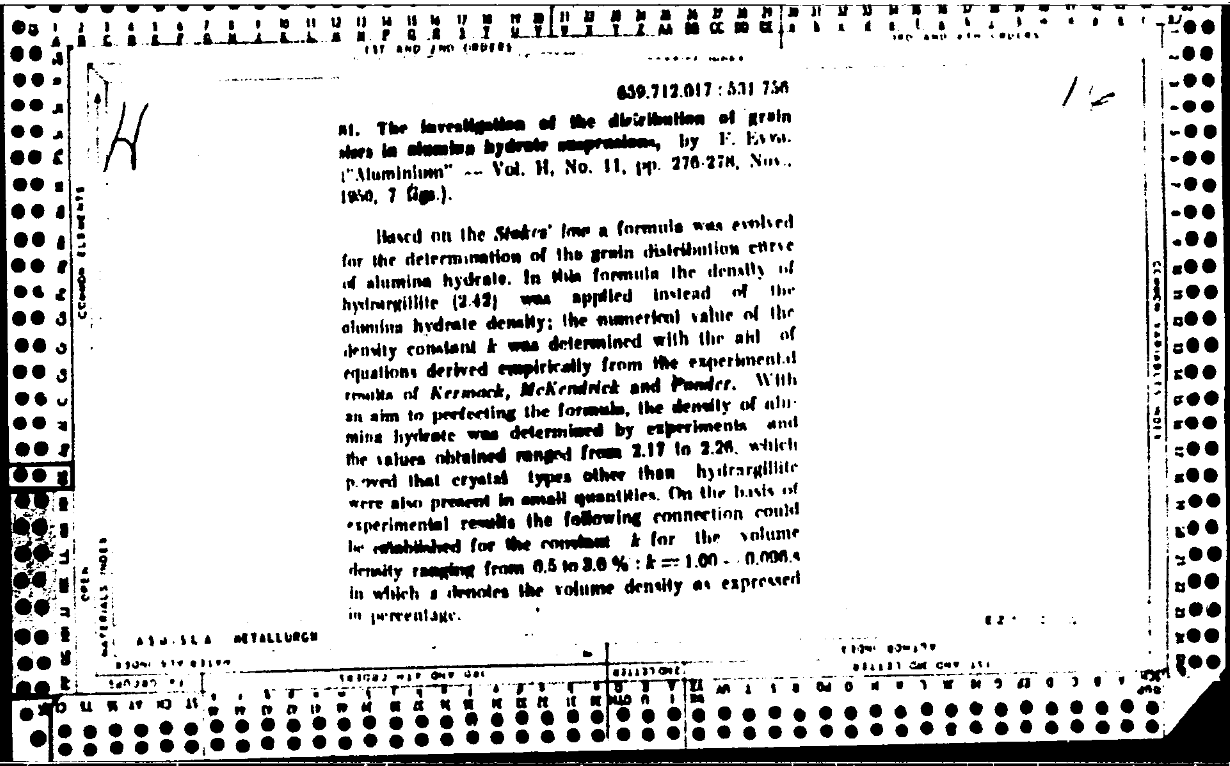
669.712.1 063

93. Pneumatic method of stirring aluminate lyes, by I. Bartha and F. Eyyp. („Aluminium" Vol. 11, No. 1, pp. 11—13, Jan., 1960.)

During nine series of experiments the usual aluminate lye obtained in alum earth plants was stirred by blowing in air in quantities up to 10 to 12 liters per minute. Compared to the usual mechanical stirring the pneumatic method of stirring showed a strong cooling effect and the pneumatically stirred containers had an average temperature lower by approx. 10 C° than similar containers stirred mechanically. The air fed was not previously freed from carbonic acid, it was conducted directly from the compressor into the containers. During each experiment the air blown through the mixture caused a quantity of water of [illegible] to 110 liters to evaporate, which brought about a certain increase in concentration. The maximum increase in the content of sodium carbonate was about 3 to 4 g/liter. Best results were obtained when injectors of 7 mm diameter were used, the medium value of the actual pressure fluctuated in this case at about 25 psi.

The grain size of the hydrate obtained after filtration was somewhat lower than that of the hydrate manufactured in the alum earth plant. No differences were, however, found in their chemical composition. Based on the results of the present tests further large scale experiments are proposed.

ASM-SLA METALLURGICAL LITE



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1/2

669.712.017 : 531.756

81. **The investigation of the distribution of grain sizes in alumina hydrate suspensions,** by F. Evva. ("Aluminium" — Vol. II, No. 11, pp. 276-278, Nov., 1950, 7 figs.).

Based on the *Stokes' law* a formula was evolved for the determination of the grain distribution curve of alumina hydrate. In this formula the density of hydrargillite (2.42) was applied instead of the alumina hydrate density; the numerical value of the density constant *k* was determined with the aid of equations derived empirically from the experimental results of *Kermack, McKendrick* and *Ponder.* With an aim to perfecting the formula, the density of alumina hydrate was determined by experiments and the values obtained ranged from 2.17 to 2.26, which proved that crystal types other than hydrargillite were also present in small quantities. On the basis of experimental results the following connection could be established for the constant *k* for the volume density ranging from 0.5 to 3.0 %: $k = 1.00 - 0.006s$ in which s denotes the volume density as expressed in percentage.

ASM-SLA METALLURGY

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771.513

New Method for the Determination of Active Agents in Photographic Gelatin. F. Evva. *Magyar Kem. Folyóirat*, 1952, 58, 43-48.—The use of Feigl's reagent is discussed for determining labile sulphur compounds in gelatin, the thiobarbituric acid colour reaction for determining reducing aldehydes in gelatin, and the nephelometric method of Azmann-Brass for determining restraining agents.

Chem. Abs.

EVVA, Franz

4
(3)

Theory of the optics of white sols. I. Effect of polydispersion on the turbidity of white sols with globular particles. Franz Evva (Optical Research Lab., Vác, Hung.). *Z. physik. Chem.* 202, 208-20 (1953).—A math. deduction is given for calcg. the abs. turbidity of white sols with globular particles and for polydisperse grain-size distributions. The effect of various types of distributions on the turbidity is discussed. In particular the relation between the scattering area coeff. *B* and the degree of polydispersion was studied and is shown in diagrams for various *n*s. An important practical conclusion is that minor alterations of the polydispersion have but negligible effect on the turbidity of white sols.

Friedrich Epstein

Chemical Abst.
Vol. 48
Apr. 10, 1954
General and Physical Chemistry

IF
9-28-54

Evva, Ferenc

5

Theory of the optics of white sols. II. Ferenc Evva (Opt. Research Lab., Vác, Hung.). Z. physik. Chem. (Leipzig) 203, 80-92(1954).—The theoretical considerations given in part I (C.A. 48, 3758i) are continued. The extinction curves were investigated as a function of the degree of polydispersion, on the basis of the equation for the abs. turbidity of polydisperse white sols: $\tau = [\lambda/2\pi m_0]^4 \cdot \pi \int_0^\infty E\alpha^2 f(\alpha)d\alpha$, where λ = wave length of the incoming light in vacuo, m_0 = abs. n of the dispersing medium ($m_0 = 1.33$ in hydrosols), $\alpha = 2\pi r m_0/\lambda$ (r = radius of a globular grain), E = scattering area coeff., and $f(\alpha)$ = grain size distribution function (for lognormal grain size distribution, $f(\alpha) = Ce^{-K(\ln(\alpha/\alpha_m))^2}$, C = max. ordinate of the distribution function, α_m = most frequent grain size, and K = a const. that is a measure of the degree of polydispersion). The smaller the relative n of the dispersed particles, the less the curves are affected by the degree of polydispersion.

Friedrich Epstein

EVVA, F.

Use of plastic materials in color photography. p. 43.

(MAGYAR KEMIKUSOK LAPJA, Budapest, Vol. 10, no. 2, Feb. 1955.)

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, No. ~~1~~ 6, Jan. 1955, Uncl.

EVVA, FERENC

HUNG.

2g

12764* Recent Concepts on the Role of the Active Substances of Photo Gelatins in the Manufacture of Photo Emulsions. Újabb nézetek a fotozselatinok aktív anyagainak szerepéről fotoemulziók gyártásánál. Hungarian. Ferenc Evva. Magyar Kémikusok Lapja [illegible] 182-190.

Elements producing light sensitivity, role of S content and the reduction effect of gelatin compounds; characterization of highly-sensitive emulsions. Tables, graphs. 41 ref.

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12732* (Hungarian.) Recent Concepts on the Photosensitivity of Photographic Emulsions. Újabb nézetek fotográfiai emulziók fényérzékenységéről. Ferenc Evva. *Magyar Kémikusok Lapja*, v. 11, no. 5, May ~~1956, p. [illegible]~~
Crystallographic basis for formation of the latent image. Conduction phenomena in Ag halide crystals

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was

Evva, F.

23. On the viscosity of concentrated aqueous solutions of polyvinyl alcohol. F. Evva. *Magyar Kémiai Folyóirat* Vol. 62, 1956, ~~No. 1,~~ pp. 28—31, 5 figs, 3 tabs.

The viscosity and rheologic properties of concentrated aqueous polyvinyl alcohol solutions (containing from 2 to 15% by weight polyvinyl alcohol), were investigated at 25° C, 32.5° C, 40° C and 50° C by applying 10 to 270 g per cm² of shear stress in a Höppler type rheoviscosimeter. The degree of polymerization of the polyvinyl alcohol samples was 11.5 ×, 40.5 × and 44.0 × 10³. A relationship was found between the velocity gradient γ (expressed in μ per sec) and the shear stress τ (expressed in g per cm²) represented by the following equation: $\gamma = A \cdot \tau^n$ where A and n are constants. According to the experimental measurements $n = 1.065 \pm 3\%$, this value being independent of the temperature the concentration and the degree of polymerization except in the case of the high polymer samples. The value of A however varies as a function of the experimental conditions (temperature, concentration and degree of polymerization of the sample), its value may be calculated from the experimental data by an exponential equation. In the case of low polymers the viscosity value changes with the velocity gradient corresponding to the saturation curve, whereas in the case of medium polymers this relationship is represented by the exponential equation $\eta_s/\eta = 1$ [illegible] $B \cdot \gamma$ where η is the viscosity in cp, η_s the viscosity value [illegible]

may

Erra, F.

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$q = 0$, β and $n = 1$ being constants. Based on the experimental findings it was concluded that the linear relation (when $n = 1$), described by several authors, may be regarded as a special case, valid only for high-polymer substances.

3/2

HUNGARY / Chemistry of High Molecular Substances. I

Abs Jour : Ref. Zhur - Khimiya, No 3, 1958, 10206

Abstract : (for 3-4 hours) with 0.5-1 gm $(NH_4)_2S_2O_6$, a syrupy I solution is obtained, from which I is precipitated with methanol (3-4 volumes), the I has a moisture content of 12.4 %, a imide group content of 47.5%, and an acid group content of 9.4 %; I may be also precipitated by means of H_2SO_4 (the I thus obtained has a moisture content of 3.6%, a N content of 10.9%, an amide group content of 37.2 mol %, an imide group content of 45.5%, an acid group content of 17.3%) as well as by 15% CH_3COOH.

Card 2/2

Evva, Ferenc

No. 3

Distr: 4E4j/4E2c(j)

Peptization of barium sulfate with synthetic polymers. Ferenc Evva (Fotokém. Kutató Intézet, Vác, Hung.). Magyar Kém. Folyóirat 62, 83-8(1956).—Polymers of carboxylic acids, their salts, or COOH- or SO_3H-contg. compds., such as the copolymers of sapond. maleic anhydride with methacrylamide, vinyl acetate, allyl alc., and methyl methacrylate, poly(methacrylamide) contg. 0.4 mole % free methacrylic acid, methacrylic acid-methacrylamide copolymers, and poly(vinyl sulfate), are suitable for the peptization of fine-grained (d. ≈ 0.8 μ) $BaSO_4$ (I) used in coatings for glossy photographic papers. A peptizant [illegible] in the amt. [illegible] cient to provide 0.5% stability [illegible] I remains peptized for 24 hrs. [illegible] of little influence upon the stability except [illegible] pure carboxylic acid polymers, for these there are specific optimum concns. Coarse-grained I [illegible] matt paper, responds to a smaller extent [illegible] suspension will settle in 1½ hr. as compared with [illegible] min. time if no peptizant is used. G. J. Kiraly

KYRA, F.

Distr: 4E2c(j)

27

5 2MAY

Preparation of silver halide emulsions with synthetic binders. II. Emulsions with poly(vinylpyrrolidinone) as protective colloid. E. Kyra (FORTE Fotokém. Ipar, Vác, Hung.). Z. wiss. Phot. 52, [illegible] 1615d.—Boiled-type emulsions were prepd. with poly(vinylpyrrolidinone) as protective colloid and poly(vinyl alc.) or polyvinyl acetal of p-dimethylaminobenzaldehyde as binder. The latter is more suitable than the alc. The AgBr emulsions can be reduction-sensitized with aldehydes, and best results were obtained with p-dimethylaminobenzaldehyde (I). Sensitization by Au is less effective than with other synthetic binder emulsions, but some sensitivity increase was obtained in combination with I at pH about [illegible].5. The optical sensitizer, cyanine dye Hoechst S 710, gave much greater sensitization. The speed increase with AgBr emulsions was 5-6 times, with AgCl 20-35 times. The speed of the prepd. paper emulsion equaled or exceeded that of com. contact papers. AgBr emulsions can be prepd. with low to normal contrast; in addn., AgCl emulsions can be prepd. with high contrast. T. H. James

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EVVA, F.

Distr: 4E2d 21 10

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Preparation of photographic silver halide emulsions with synthetic binders. III. Sensitization of completely ammoniacal silver halide poly(vinyl alcohol) emulsions. F. Evva (FORTE Fotokém. Ipar, Vác, Hung.). ~~Z. wiss. Phot. 52~~, 130-37(1958); cf. *C.A.* 52, 8808*h*.—The effect of different agents on the chem. sensitization of a poly(vinyl alc.)-Ag(Br, I) emulsion was studied. The emulsion was of the NH_3 type and contained 2.7 mole % AgI. The AuSCN complex showed significant activity as a sensitizer only when used with a S sensitizer. The activity increased to a definite limit with increasing concn. of S sensitizer. $Na_2S_2O_3$ promoted sensitization equally over the pH range tested (5.55-7.70). Allylthiourea was inactive at pH 5.48-6.25, but promoted sensitization at pH 6.95 and above. The Au sensitizer was practically inactive at pBr below 3, but activity increased rapidly above this value and increased 7.5-10 times over the range 3.6-4. Et_3N added before pptn. caused only a slight increase in speed and γ of the basic emulsion; Au sensitization of this prepn. was greater in the pBr range 3.0-3.4 than in the absence of the amine, but not at higher pBr. Ethylenediamine (I) added before pptn. increased the speed of the basic emulsion 1.5-2 fold. Spermin ($H_2N(CH_2)_3NH(CH_2)_4NH(CH_2)_3NH_2$) (II) and polyethylenimine (III) added at the after-ripening stage increased sensitivity. I alone decreased the speed but had a synergetic effect on sensitizing by II. I and III at high concns., when added at the after-ripening stage decreased the activity of Au sensitizer and increased fog, but II caused increased speed without significant fog increase, and I acted synergetically with II. No beneficial action of polyethylene-oxide or of $SnCl_2$ and *p*-dimethylaminobenzaldehyde was observed, and the reducing agents caused fog with after-ripening at 60°. The strong restraining action of cystine on Au sensitization, reported by Narath and Gernert (*C.A.* 50, 9910*f*) was not confirmed. Arginine had no significant effect on Au sensitization. T. H. James

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EVVA, Ferenc, dr.

Modern anti-halo layers. Kep hang 5 no.4:108-110 Ag '59.

1. FORTE Fotokemiai Ipar Kutato Laboratoriuma.

EVVA, Ferenc, dr.

Some physicochemical questions of casting photographic emulsions. Kep hang 5 no.5:141-143 O '59.

1. FORTE Fotokemiai Ipari Vallalat Kutatolaboratoriuma.

EVVA, Ferenc, Dr.

Significance of wetting in pouring photographic emulsions. Kep hang 5 no.6:167-170 '59 (EEAI 9:3)

1. Forte Fotokemiai Ipar V. Kutatolaboratoriuma
(Wetting) (Photography)

23(5) H/016/60/05/002/011
D0023/D3001

AUTHOR: Evva, Ferenc, Doctor

TITLE: Recent Developments in the Theory of the Latent Image,p

PERIODICAL: Fizikai Szemle, 1960, 10 Nr 5, pp 131-140

ABSTRACT: Having reviewed the history of past developments in the theory of the latent image, the author gives a detailed explanation of the now obsolete Gurney-Mott theory, expounding its deficiencies. The theory of Mitchell is offered as a reasonable alternative, though its weak points are emphasized. The Soviet criticism of this theory is briefly dealt with. K.V. Chibisov raises some points on the activity of microcrystals /Ref 21/, also, in his opinion, the silver sulfide takes part in the reaction

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Card 1/2

H/016/60/05/002/011
D0023/D3001

Recent Developments in the Theory of the Latent Image

only as a catalyst and has no influence on the light sensitivity of the emulsion. Varshaver, Kraus and Chibisov are of the opinion that the minimum dimensions of the latent image specks are larger than in Mitchell's estimate. There are 4 photos, 2 graphs, 2 figures, 7 sets of figures and 25 references, 15 of which are English, 5 Hungarian, 4 German and 1 Soviet.

ASSOCIATION: "Forte" Fotokémiai Ipar V. kutató laboratóriuma (Photochemical Industrial Enterprise, Research Laboratory), Vác.

Card 2/2

EVVA, Ferenc, dr.

Spectral sensitization of photopaper emulsions. Kep hang 7 no.2:41-46 Ap '61.

1. Forte Fotokemiai Ipar, Kutato Laboratorium, Vac.

EVVA, Ferenc, dr.

Newer research achievements in the field of photo gelatine depressors. Kep hang 7 no.4:130-133 O '61.

1. Forte Fotokemiai Ipar, Kutato Laboratorium, Vac.

EVVA, Fereno, Dr.

Scientific photographic seminar held in Zurich. Kep hang 8 no.2:44-46 Ap '62.

1. Forte Fotokemiai Ipar V.Vac.Kutato Laboratorium.

12

Leipzig, Zeitschrift fur wissenschaftliche Photographie, Photophysik und Photochemie, Vol. 5[illegible], No 5-6, 1962

1. "The Camera Lens in Medical Photography," Harry [illegible] of the VEB (Volkseigener Betrieb—People-Owned Enterprise) Carl Zeiss, Carl-Zeiss Strasse 1, Jena; pp 81-87.

2. "Studies on the Shrinkage Properties and Stabilization of Photographic Paper," R. [illegible] of the VEB Carl Zeiss, Jena; pp 85-95.

3. "Contributions to the Preparation of Photographic Plastic-Silver Halide Emulsions. I. Effect of Capillary Active Substances on the Photographic Properties of Polyvinylalcohol-Silver Halide Emulsions," Dr P. EVVA of the Research Laboratory of FORTE Photo-Chemical Industries (FORTE Fotokemiai Ipar), Vac, Hungary; pp 9[illegible]-109.

Australia

4. "The Structure of the Latent Image," J. [illegible] of the South Australian Institute of Technology, Adelaide, North Terrace, Australia; pp 110-132. (Article in English)

Hung

5. "Film Dosimetry for the Measurement of Ionizing Rays," L. [illegible], K. DOSA[illegible] and J. [illegible] of the X-Ray and Ray-Physical Institute, Doberdo u.3, Budapest XI, Hungary; pp 132-1[illegible]5.

6. "On the Sensitizing Properties of Some 1-(ω-Carboxyalkyl)-1',9-Diethyl-3,3'-Dimethylbenzothiocarbocyanines," Kurt MEYER and Joachen [illegible] of the Research and Development Section of the VEB Filmfabrik Agfa in Wolfen and of the Chemical Institute II. of Humboldt University, Berlin; Addresses of authors: Prof. Dr. K. MEYER, Thalmannstrasse 3[illegible]a, Wolfen; Diplomate-Chemist J. [illegible], Breestpromenade 4, Berlin-Friedrichshafen; pp 147-152

— 1/ —

EVVA, F.

EVVA, Ferenc, dr.

Problems of preparing photographic emulsions of polyvinyl-alcohol-silver haloid. Kep hang 9 no.1:13-16 F '63.

1. Forte Fotokemiai Ipar Kutatolaboratoriuma, Vac.

EVVA, Ferenc, dr.

Significance of dampening at casting photographic emulsions. Kep hang 5 no.6:167-170 D '59.

1. Forte Fotokemiai Ipar Vallalat Kutatolaboratoriuma.

EVZEN, K.

Role of the middle medical personnel in BCG vaccination of newborn.
Prakt. lek., Praha 31 no.18:404-405 20 Sep 1951 (CIML 21:1)

EVZLINA, B. B.

4

✓Relative reducibilities of synthetic and natural calcium phosphates. N. N. Postnikov, B. B. Evzlina, and O. V. Vasil'eva. *J. Appl. Chem. U*[illegible]0-51(1955) (Engl. translation).—See *C.A.* 50, 1255. B. M. R.

Evzlina, B. B.

V

GP

Relative reducibilities of synthetic and native calcium phosphates. N. N. Postnikov, B. B. Evzlina, and O. V. Vasil'eva. *Zhur. Priklad. Khim.* 28, 679-84(1955).—Mixts. of synthetic and native phosphorites and C (110% of the stoichiometric) were compressed and heated at 1300° for 1 hr. in a tubular furnace (cf. Mikulinskii and Maron, *C.A.* 36, 960^4). The percentage reduced, k, as a function of the time, t, gave a family of similar curves with the same origin on the t axis, a rapid rise followed by a rapidly decreasing rate of rise approaching a const. value. The rate of rise of k and the value of k at which the rate approaches 0 are different and divide the phosphorites into 2 main groups: tricalcium phosphates and hydroxy- and fluorapatites. The different reducibilities are ascribed to the different geol. origins, chem. compns., and crystal structures. L. B.

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KACHANAK, Stefan, doc., inz., CSc.; VALTYNI, Jan, inz.; EWERLINGOVA,
Viktoria, inz.

Adsorption dynamics in continuous columns from the viewpoint of the Brunauer, Emmet, Teller theory. Chem zvesti 17 no.6: 378-389 '63.

1. Katedra anorganickej chemie, Slovenska vysoka skola technicka, Bratislava, Lollarovo namesti 2.

ACCESSION NR: AP4000910 P/0027/63/000/003/0143/0150

AUTHOR: Ewert, Andrzej

TITLE: The thermal continentality of climate

Vol [illegible] 8

SOURCE: Przeglad geofizyczny, no. #3, 1963, 143-150

TOPIC TAGS: climatology, continental climate, climate analysis, thermal continentality

ABSTRACT: A formula is presented for thermal continentality which satisfies the following conditions: 1) it eliminates the influence of geographic latitude on the meteorological conditions involved and the influence of unequal geographic distribution of the continents on the magnitude of these meteorological elements; 2) it is applicable to all geographic latitudes; 3) it provides no negative results for any region; and 4) it gives values of continentality for periods shorter than one year. A chart, based on the results, shows the thermal continentality for the whole globe. Orig. art. has: one formula and 3 figures.

Card 1/2

ACCESSION NR: AP4000910

ASSOCIATION: Panstwowy Instytut Meteorologiczny i Hydrologiczny, Slupsk, Poland (State Institute for Meteorology and Hydrology)

SUBMITTED: 22Jun62 DATE ACQ: 17Dec63 ENCL: 00

SUB CODE: AS NO REF SOV: 002 OTHER: 004

Card 2/2

EWERTOWSKA, Wanda, mgr.

New ways of deep groun water purification. Przegl techn no.25:11. Je '62.

EWERTOWSKA, Wanda, mgr

Economic effects of iron removal from deep waters without aeration Przegl techn 85 no. 42:9 18 O '64.

CA

#11

Prontosil poisoning. Zygmunt [illegible]. *Med. Weteryn.* (Poland) 5, 851-6(1949).—The poisonous effect of sulfa drugs is discussed in relation to their chem. structures and metabolic decompns. The toxicity of 4-sulfamyl-2',4'-diaminoazobenzene (*prontosil rubrum*, I) in animals is due to the formation of triaminobenzene (II). II, prepd. by the reduction (Fe HCl) of I, as well as I gave symptoms similar to those of aniline poisoning. In human beings I is excreted unchanged and no poisoning occurs.

I. Z. Roberts

EWY, Z.

Diabetes insipidus as one of the aspects of cerebropituitary disorders. Med. wet. 6 no.4:221-222 Apr. 1950.
(CLML 20:1)

Poland CA: 47:12579

EWY, Z.

with W. BIELANSKY

Zootechnical Inst., Krakow, Poland

"Effect of estrogens on the reproductive functions of the stallion."

Acta Endocrinol. 6, 272-84 (1951) (in English).

EWY, Z.

Quantitative determination of gonadotrophic hormones in the serum of pregnant mares by using the frog *Rana esculenta* L. W. Bielanski, Z. Ewy, and H. Pigoniowa (*Folia biol.*, *Cracow*, 1953, 1, 72—80).—The Galli Mainini test was found applicable to the determination of gonadotrophin in the serum of pregnant mares. The sensitivity of the frog to the hormones, as indicated by the appearance of seminal cells in the frog's urine about 3 hr. after gonadotrophin injection, varies with the time of the year and is greatest in May and smallest in August. The reduced sensitivity is attributed to the exhaustion of the male sexual organs after the breeding period. The method, which is described, is simple and gives quick and fairly reliable results. The presence of even the smallest number of spermatic cells in the urine of the frog indicates a positive reaction, which is expressed in frog units. The relation between the i.u. and the frog unit has been determined on experimental basis as: 1 frog unit = 20—22 i.u.

A. Storfer

Ewy, Z.

Sympathomimetic character of cow fæces extracts. Z. Ewy and H. Figoniowa (*Folia Biol., Warsaw*, 1954, 2, 123—[illegible]).—One hundred and fifteen samples of urine-free fæces from pregnant and non-pregnant cows were investigated. Twenty-four cows were in the period of pregnancy from 6 to 303 days after the last copulation and 5 cows were not pregnant. Dialysates prepared according to the Bhaduri and Bardhan technique were injected into male *Rana esculenta* frogs. Injections of the dialysates whether from pregnant or non-pregnant cows caused secretion of sperm in only 10% of cases. The positive results of the spermiation test suggest that fæces of cows contain a certain sperm-activating factor, similar in final effect to the action of gonadotrophin or adrenaline. At the same time dialysates of the same fæces produced dilatation of the pupil of the isolated frog eye. This shows that the factor in bovine fæces extract has the properties of sympathomimetic compounds.

B. VINEY.

EWY, Z.

BIELANSKI, W.; EWY, Z.; PIGONIOWA, H.

Variations of excretion of serum gonadotropins in pregnant mares.
Acta physiol. polon. 5 no.4:517-519 1954.

1. Z Institutu Zootechniki w Krakowie. Dyrektor: prof. dr T.Marchlewski.
(PREGNANCY TESTS,
Galli-Mainini test in mares)

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

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 60657

Author : Bielanski, W.; Ewy, Z.; Pigoniowa, H.
Inst : Not given
Title : Difference in Endocrine Secretion in Pregnant Mares Mated with Horses and Asses

Orig Pub : Folia biol. (Warszawa), 1955, 3, No 1, 19-30

Abstract : In the course of three years, mares were mated alternately with horses and asses. In the latter case the formation of gonadotropins is lower (according to the Galli Mainini method). The difference in the gonadotropin content in the blood is dependent on the mucosa of the uterus with a simultaneously normal function of the placenta. -- D. I. Parolla

Card 1/1

EWY, Z.

✓ **8962. Differences in endocrine secretion of mares pregnant with stallion or jack.** W. Bielański, Z. Ewy, and H. Pigoniowa *Bull. Acad. polon. Sci.*, 1955, 3, 37—39 (Central Lab., Inst. of Animal Husbandry, Cracow).—Gonadotrophins are absent in the serum of mares pregnant with an ass (jack) but are always present in mares pregnant with a stallion. The urine of pregnant mares, whether with a stallion or jack, contains œstrogenic compounds from the 94th day of pregnancy on, indicating that the placenta is unaffected by heterogeneous pregnancies. E. C. BUTTERWORTH.

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EWY, Z.; WOJCIK, K.

Studies on hemoglobin types in animals. Acta physiol.polon.11 no.5/6:693-694 '60.

1. Z Katedry Fizjologii Zwierzat W.S.R. w Krakowie. Kierownik: prof.dr Z.Ewy.
(HEMOGLOBIN)

EWY, Z. (Krakow)

Deficiency of iodine in cows of the Krakow Voivodeship. Rocz nauk roln wet 70 no.1/4:132-133 '60. (EEAI 10:9)

(Cows) (Iodine)

EWY, Zygmunt; PIGONIOWA, Halina (Krakow)

Research on the formation of antibodies in animals by administering gonadotropic hormones. Rocz nauk roln wet 70 no.1/4:308-310 '60.
(EEAI 10:9)

(Antigens and antibodies) (Animals) (Gonadotropic hormones)

EWY, Zygmunt; WOJCIK, Kazimierz

Studies on animal hemoglobin types. Acta physiol pol 12 no.3:441-449 '61.

1. Z Katedry Fizjologii Zwierzat W.S.R. w Krakowie Kierownik: prof. dr Z. Ewy.

(HEMOGLOBIN)

EWY, ZYGMUNT

SURNAME, Given Names

(6)

Country: Poland

Academic Degrees:

Affiliation:

Source: Warsaw, Medycyna Weterynaryjna, Vol XVII, No 8, August 1961, pp 491-494

Data: "Spontaneous Hyperthyfoidism in a Young Bull."

Authors:

EWY, Zygmunt, Prof Dr., Director of the Department of Animal Physiology (Katedra Fizjologii Zwierzat), Higher Agricultural School (WSR-- Wyzsza Szkola Rolnicza), Krakow

BOBEK, Stanislaw; Department of Zoohygiene (Katedra Zoohigieny) and Physiology of Reproduction Laboratory (Pracownia Fizjologii Rozrodu), Institute of Animal Husbandry (IZ-- Instytut Zootechniki) Krakow; Director: Prof, Wladyslaw BIELANSKI, dr.

LASZCZKA, Andrzej

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GPO 981643

CZECHOSLOVAKIA

Z. EWY and A. SLEBODZINSKI, Chair of Animal Physiology [original version not stated] Head Prof Dr Z. EWY, WSR [Wyzsza Szkola Rolnicza, Agricultural College], Krakow.

"Changes in Thyroid Gland Activity in Animals asEffect of Stilbestrol."

Prague, Veterinarni Medicina, Vol 7, No 12, Dec 62; pp 855-858.

Abstract [French summary modified]: In 22 adult 2- or 4-year old sheep and 34 rabbits aged 4, 7 and 10 months, NaI^{131} or carrier-free I^{131}; determine a. thyroid accumulation; b. PBI conversion, c. radioactivity release by thyroid and d. with methylthiouracil. In sheep, minimal p.o. methylthiouracil required is 0.02 mg./Kg./day; stilbestrol 250 mg./sheep for 5 days, or 1 mg./rabbit once; PBI formation in control sheep during 24 hours after I^{131} is 7.9 ±2.9%, in estrogenized 13±3.1% (P=0.05.) In sheep given 250 mg. stilbestrol for 40 days decreased peripheral thyroxine utilization from 2% in controls to 1.7% per hour, in direct proportion to radiothyroxinemia (from 40.9 to 34); P=0.05. Four Western references. "Growth-promoting" effect of stilbestrol is at least partly via thyroid.

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EWY, Z.; BIELANSKI, W.; ZAPLETAL, Z.

Influence of oxytocin on spermatozoa transport in the ductus deferens of the ram. Bul Ac Pol biol 11 no. 3:145-158 '63.

1. Department of Animal Hygiene, Agriucltural College, Krakow, and Institute of Zootechnics, Krakow. Presented by Z. Grodzinski.

EWY, Zygmunt

Report from a convention of Heads of Chairs of Animal Physiology of Departments of Universities and Agricultural Colleges. Kosmos biol 12 no.3:307-313 '63.

SUSKA-BRZEZINSKA, E.; EWY, Z.

Oxytocinase in Hen serum. Bull. acad. Pol. sci. [Biol.] 13 no.1:17-19 '65.

1. Submitted on November 30, 1964.

WOJCIK, K.; LEWY, Z.

Studies on the serum glycoproteins level in mares in early pregnancy. Bull. acad. Pol. sci. [Biol.] 13 no.8:485-487 '65.

1. Submitted May 8, 1965.

SUSKA-BRZESINSKA, Ewa; GOLEBSKA, Maria; EWY, Zugmunt, prof. dr.

Determination of tissue oxytocinase in cows using biological and chemical methods. Acta physiol. Pol. 16 no.1:151-158 Ja-F'65.

1. Katedra Fizjologii Zwierzat Wyzszej Szkoly Rolniczej w Krakowie (Kierownik: prof. dr. Z. Ewy).

EXEL, B.

Yugoslavia (430)

Technology

Home production of bimetal thermoelements. p. 427, Nova Proizvodnja, Vol. 2, no. 6, December 1951.

<u>East European Accessions List</u>. Library of Congress, Vol. 2, no. 3, March 1953. UNCLASSIFIED.

[illegible], S.

First project for utilizing natural gas in metallurgy and the first gas pipeline. p. 25. (NOVA PROIZVODNJA, Vol. 5, no. 1, May 1954, Ljubljana, Yugoslavia)

SO: Monthly list of East European Accessions, (EEAL), LC, Vol. 4, no. 1 Jan. 1955, Uncl.

EXEL, B.

EXEL, B. Heating of rooms by heat radiation.

Vol. 6, No. 1, April, 1955 NOVA PROIZVODNJA

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

YUGOSLAVIA/ Chemical Technology. Chemical Products and Their Applications. Instruments and Automation H-3

Abs Jour : Ref Zhur - Khim., 1958, No 24, No 81896

Author : Excl B.
Inst : -
Title : Measurements of Rapid Changes in Temperature of Gases With the Aid of Accurate Thermometers

Orig Pub : Nova proizvodnja, 1956, 7, No 2, 160-164

Abstract : No abstract

Card : 1/1

EXEL, B.

Importance of natural gas for iron metal-lurgy. p. 1022
Tehnika (Savaz inzenjera i techicara Jugoslavije)
Beograd. Vol. 11, no. 7, 1956

SOURCE: East Europe Accessions Lists (EEAL)
Library of Congress, Vol. 5, no. 11, Nov. 1956

EXEL, B.

Stoichiometric data on Slovenian brown coals. p. 146.

Periodical: NOVA PROIZVODNJA.

Vol. 9, no. 3, June 1958.

TECHNOLOGY

SO: Monthly List of East European Accessions (EEAI) LC

Vol. 8, No. 4
April 1959, Uncl.

EXEL, N.

Boron steels. p. 208. NOVA PROIZVODNJA. (Zvena drustev inzenirjev in tehnikov LRS) Ljubljana. Vol. 7, no. 2, Apr. 1956.

SOURCE: East European Accessions List, (EEAL), Library of Congress, Vol. 5, no. 12, December 1956

CZECHOSLOVAKIA/Electronics - Electrons and Ion Emission. P

Abs Jour : Ref Zhur Fizika, No 12, 1959, 27807

Author : Partlova, M; Exkertova, L.
Inst : -
Title : Maximum of Thermal Emission and Photoemission of Silver-Cesium Photocathodes

Orig Pub : Chekhosl. fiz. zh., 1959, 9, No 2, 263-265

Abstract : See Abstract 27806.

Card 1/1

EXNER, Helmut

"The new generation for the victory of socialism." Ujit lap 12 no.8:
5 25 Ap '60.

S/081/63/000/002/031/088
B166/B138

AUTHORS: Exner, Jaroslav, Šimon, František

TITLE: Surface treatment of metals and their alloys, for example aluminum

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 334, abstract 2K75 (Czechoslovak Patent 100276, July 15, 1961)

TEXT: The suggested method is based on the recrystallization of the metals; exposing the texture by etching, which provides for surface relief (of the order of a few μ) and applying a transparent protective coating. Example. Al-coated sheet (Al purity 99.95%) 2mm thick having a fine crystalline structure imparted by cold rolling is heated at 350°C for 1 hr, it is then cold formed in the critical range (10% reduction) and subjected to new recrystallization anneal at 600°C for 30 min. After degreasing, the sheet is etched in a solution composed of (% by weight): HCl 42, HNO_3 16, HF 15, H_2O 27, solution temperature 50-70°C, etching time 5 min. The sheet is then washed, anodized in an H_2SO_4 solution and painted. [Abstractor's note: Complete translation.]

Card 1/1

EXNER, JOSEF

5

Copolymerization of itaconic acid and methyl methacrylate. Josef Exner and Miloslav Bohdanecký (Výzkumný Ústav Synth. Pryskyřic, Pardubice, Czech.). *Chem. Listy* 48, 483-5(1954).—The copolymerization parameters of $CH_2{=}CMeCO_2Me$ and itaconic acid have been detd.: $r_1 = 1.14$; $r_2 = 0$. The polymerization has been carried out in a dioxane soln. at 90°.

E. Erdös

2-may

EXNER, J

Polarographic determination of autoxidation products in methacrylates. Miloslav Bohdanecký and Josef Exner (Výzkumný ústav synth. pryskyřic, Pardubice, Czech.). *Chem. Listy* 48, 1500–10(1954).—Autoxidation of methacrylates forms peroxides and pyruvates, which are determinable polarographically within 2% and ±5% of the truth, resp. The detn. is carried out in a mixt. of equal vols C_6H_6 and MeOH with 0.3*M* LiCl as a basic electrolyte. The min. amt. determinable is 0.04 micromol. of peroxidic O and 0.001% pyruvate in one l. of monomethacrylate.

M. Hudlický

2520. Polarographic determination of quinol in monomers. J. Exner and M. Bohdanecký (Výzkumný [illegible] pryskyric, Pardubice, Czechoslovakia). Chem. Listy, 1955, 49 (7), 1091–1093.—Quinol in neutral vinyl monomers can be determined polarographically vs. a graphite electrode, with a mean error of ± 2 per cent. The monomer is dissolved in a mixture of methanol and benzene containing 0·1 M ammonium acetate as electrolyte. The well-defined diffusion wave has a $E_{\frac{1}{2}}$ of + 0·05 V, its height being proportional to quinol concn.

G. GLASER

EXNER, J.

7693* (German.) Non-Newtonian Flow of Dilute Solutions of Polymethylmethacrylates/Nichtnewtonsche Strömung Verdünnter Lösungen von Polymethylmethakrylaten. M. Bohdanecký and I. Exner. *Collection of Czechoslovak Chemical Communications*, v. 21, Dec. 1956, p. 1584-1591.

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EXNER, JOSEF

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4

Autoxidation of butyl methacrylate. Josef Exner and Miloslav Bohdanecký (Výzkumný ústav synthet. pryskyřic laků, Pardubice, Czech.). *Chem. listy* 51, 952-60(1957).—$CH_2:CMeCO_2Bu$ (I) reacts with O at 30° and atm. pressure in the ratio 1:1 forming a copolymer $[CH_2CMe(CO_2Bu)O\text{-}O]_n$ (II) with mol. wt. 1000 which decompd. on heating and by reaction with bases to CH_2O and $AcCO_2Bu$ (III). The reaction of I with O is autocatalytic. The resulting copolymers degrade to radicals which initiate the copolymerization. Allowing 50 ml. I to stand 1 year at room temp. in an open flask and evapg. the soln. at 15-20° in a stream of O gave approx. 90% peroxides. They were isolated by freezing at −70° from a 10% soln. in MeOH. Autoxidation of I was carried out at 30° in open flasks irradiated with luminescent tubes. Thermal decompn. of II was followed in a 20% soln. of II in PhMe. Decompn. of II with bases was carried out in a 10% soln. of II in MeOH. Thermal decompn. of II is 1st order; the base-catalyzed decompn. of II is 2nd order (with reference to II), being proportional to the concn. and dissocn. const. of the base used.

M. Hudlický

EXNER, JOSEF

CZECHOSLOVAKIA/Chemistry of High-Molecular Substances. I

Abs Jour: Ref. Zhur-Khimiya, No 11, 1958, 38470.

Author : Bohdanecky Miloslav, Exner Josef
Inst : Not given.
Title : Dependence of Viscosity of Solutions of Polymers on Concentrations. Role of Non-Newtonian Flow.

Orig Pub: Chem listy, 1957, 51, No 6, 1029-1035.

Abstract: Determinations were made of the branching of molecules of a polymer on the basis of the equations of Khaggins $\eta_{sp}/C = [\eta] + k_H[\eta]^2 C$ (1), Shul'ts $\eta_{sp}/C = [\eta] + k[\eta]\eta_{sp}$ (2) and Martin $\eta_{sp}/C = [\eta] + k_M[\eta]C$ (3). A study was made of the invariance in the equations on the molecular weight and on the gradient of the rate for polymethyl methacrylate in benzene, toluene, tetrachloroethane and chloroform, and for polybutyl methacrylate in chloroform.

Card : 1/2

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

Abs Jour : Ref Zhur - Fizika, No 11, 1958, No 25108

Author : Bohdanecky M., Exner J.
Inst : Not Given
Title : Concentration Dependence of the Viscosity of Solutions of Polymers. Indluence of Non-Newtonian Flow.

Orig Pub : Collect. czechosl. chem. commun., 1958, 23, No 2, 198-205

Abstract : No abstract

Card : 1/1

L 11403-65 EWP(j)/EWT(m) Pc-4 DIAAP/ASD(m)-3/ESD(gs)/AMD/ASD(f)-2/AFWL/
SSD RM

ACCESSION NR: AP4049738 Z/0038/64/010/008/0291/0291

AUTHOR: Sokola, K.; Klatil, K.; Rotrekl, B. (Rotrekl', B.); Exner, J. (Eksner, Y.) B

TITLE: Adsorption of napthenates and fatty acids on titanium rutile white pigment 15 determined by means of radioactive isotopes 17

SOURCE: Jaderna energie, v. 10, no. 8, 1964, 291

TOPIC TAGS: napthenate, fatty acid, rutile titanium, lacquer, radioactive isotope, toluene, rutile, pigment, flocculation

Abstract: A method for the study of the adsorption of important raw materials for the production of lacquers 15 on the surface of rutile titanium white pigment is described. The method is based on radio active isotopes; the pigment is precipitated from toluene solutions, and may contain some high molecular weight components for pigments. The method allows accurate investigation of the processes of stabilixation of pigment particles, and the forma-

Card 1/2

SOKOLA, K.; KLATIL, K.; EXNER, J.

Study of the adsorption on the surface of pigment particles. Pt. 1. Chem prum 14 no.1:30-33 Ja'64.

1. Vyzkumny ustav syntetickych pryskyric a laku, Pardubice (for Sokola and Exner).
2. Spolek pro chemickou a hutni vyrobu, n.p., Usti nad Labem (for Klatil).

SOKOLA, K.; ROTREKL, B.; PAGACOVA, L.; EXNER, J.

Study on the adsorption of fatty acids on the surface of rutile.
Chem prum 14 no.11:597-599 N '64.

1. Research Institute of Synthetic Resins and Lacquers, Pardubice.

L 18484-66 EWP(t) IJP(c) JD/HW

ACC NR: AP6010244 SOURCE CODE: CZ/0038/65/000/005/0184/0185

AUTHOR: Exner, Josef; Klatil, Karel; Sokola, Karel 35

ORG: Research Institute for Synthetic Resins and Lacquers, Pardubice (Vyzkumny ustav syntetickych pryskyric a laku); [Klatil] Enterprise for Chemical and Metallurgical Production, Usti (Spolek pro chemickou a hutni vyrobu, n. p.) B

TITLE: Preparation of cobalt and calcium naphtenates tagged with Co sup 60 and Ca sup 45 21

SOURCE: Jaderna energie, no. 5, 1965, 184-185

TOPIC TAGS: cobalt, calcium, tracer study, chemical precipitation, solvent extraction, organic solvent, radiation chemistry, remote handling equipment, titrimetry, polarimeter

ABSTRACT: The naphtenates are prepared by precipitation and extraction of the precipitate by a suitable hydrocarbon solvent. The authors describe an apparatus of their design that allows distant manipulation and eliminates hazards to operators. Detailed process descriptions are given. A polarometric and a complexometric titration method for the determination of metals in siccatives are described. This paper was presented by M. Komurka. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 07, 18 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 005
SOV REF: 002

Card 1/1 UDC: 546.73.02: 546.41.03 2

Antihistamine substances. XXI. Sulfonium analogs of antihistamines of the ether series. Miroslav Protiva and Otto Exner (Biochem. and Pharm [illegible] XXIII. [illegible] analogs of antihistamines of the monoamine and diamine series. Otto Exner, Miloš Borovička, and Miroslav Protiva (Research Inst. [illegible], Prague, Czech.). Chem. Listy 46, 341-6(1952); cf. C.A. 46, 9[illegible], 8082a.—Ph₂CHCH₂CH₂OH (27.7 g.) satd. with dry HBr gave 30.4 g. [illegible] $Ph_2CHCH_2CH_2Br$ (I), b_1 115-53°, b_2 145° [illegible] I (11.8 g.) added to a soln. of 1.15 g. [illegible] satd. with MeSH, the mixt. refluxed [illegible] hr. [illegible] removed, and the filtrate evapd., dild. [illegible] with dil. AcOH, and distd. yielded [illegible] $Ph_2CHCH_2CH_2SMe$, b_1 147° (II). $PhNHCH_2Ph$ (18.3 g.), 16.5 g. $ClCH_2CH_2SMe$ (III), and 8 g. Na_2CO_3 heated 5 hrs. at 120° with stirring, dild. with 50 ml. C_6H_6 and 20 ml. H_2O, and the C_6H_6 layer washed with 50 ml. H_2O and distd. gave 9.4 g. (30.5%) $PhCH_2NPhCH_2CH_2SMe$ (IV), $b_{0.1}$ 165-73°; HCl salt, m. 147° (from Et_2O-Me_2CO). PhSNa and III gave 76.5% $PhSCH_2CH_2SMe$ (V), $b_{1.5}$ 117°. Ph_2CHSH (10 g.) and 5.5 g. III were added to 1.15 g. Na in 25 ml. EtOH, the mixt. refluxed 4 hrs., dild. with 250 ml. H_2O, extd. with C_6H_6, and the ext. evapd. and distd. yielded 4.5 g. $Ph_2CHSCH_2CH_2SMe$ (VI), $b_{0.5}$ 166-70°. Sulfonium salts (methiodides) were prepd. by allowing the sulfides to stand 2-4 days with excess MeI: II-MeI [illegible] m. 128°, IV-MeI m. 117°, V-MeI (82%) m. 95°, and VI-MeI (75%) m. 111-15°. The antihistamine effect of the methiodides is very low. XXIV. α-Alkyl homologs of antihistamines of the N-benzylethylenediamine series. [illegible]slav Protiva, Jiří Pliml, Miloš Borovička, and Václav Řeřicha. Ibid. 346-9.—$NaNH_2$ (35 g.) in 400 ml. C_6H_6 [illegible] 23 g. $PhNH_2$ and 61 g. [illegible] and the [illegible] 42.8 g. [illegible] H_2O [illegible]. The following were similarly prepd.: [illegible] methylaminoethylamino)pyridine (II), $b_{0.5}$ 115-17°, 2-(2-diethylaminoethylamino)pyridine (III), $b_{0.4}$ 103-6° (dipicrate, m. 185-6°), and 2-[illegible] 2-(1-piperidyl)ethyl chloride [illegible] 164-5°. The following α-alkylbenzyl chlorides (IV) were prepd. from $SOCl_2$ and the carbinols: Me, 78%, b_{12} 82°; Et, 87%, b_{20} 90-2°; Pr, 75%, b_{15} 105°; and Bu, 70%, b_{15} 120°. From I-IV and $NaNH_2$ the following $PhN(CH_2CH_2NR_2)CHRPh$ were prepd. by refluxing 5 hrs. in C_6H_6 [illegible] V [illegible] 188-90° [illegible] picrate, m. [illegible] $b_{0.5}$ 167° [illegible] m. [illegible] $b_{0.4}$ 162-6° [illegible] m. 110° [illegible] 170-72° [illegible] picrate, m. 120-1° [illegible] V [illegible] method from [illegible] refluxing [illegible] 75-7° (dipicrate [illegible] methylbenzyl)-2-diethylamino[illegible]

Otto Exner,
Milos Borovička
& Miroslav Protiva

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ethyl)amino]pyridine, $b_{0.4}$ 157–63°, (*dipicrate*, m. 143–5°), were obtained from PhCHMeCl and II and III, resp. Acid succinates of VI and of 2-[(α-ethylbenzyl)(2-dimethylaminoethyl)amino]pyridine, $b_{0.4}$ 145–7°, were of the same and double the efficiency, resp., compared with benadryl.

XXV. Three new basic benzhydryl ethers. Miroslav Protiva and Miloš Borovička. *Ibid.* 427–9.—$(Ph_2CH\text{-}OCH_2CH_2NMeCH_2)_2$ (I), 1-(2-benzhydryloxyethyl)-4-(2-hydroxyethyl)piperazine (II), and 1-(2-benzhydryloxyethyl)-4-(2-chloroethyl)piperazine (III) were prepd. by the following series of reactions: $(CH_2NH_2)_2$ (120 g.) in 640 ml. anhyd. C_5H_5N and 740 g. $p\text{-}MeC_6H_4SO_2Cl$ heated 1 hr. at 80°, and poured into 400 ml. H_2O, 500 ml. concd. HCl, and 100 g. ice gave a quant. yield of cryst. $(p\text{-}MeC_6H_4SO_2NH\text{-}CH_2)_2$ (IV), m. 160–1° (from EtOH), also obtained, in 46% yield by refluxing 2 hrs. 34.2 g. $p\text{-}MeC_6H_4SO_2NH_2$, 11.2 g. KOH, 22 ml. H_2O, 18.8 g. $(CH_2Br)_2$, and 100 ml. EtOH. I (82 g.) with 79 g. MeI in a mixt. of 20.5 g. NaOH, 40 ml. H_2O, and 223 ml. EtOH gave 77 g. (87%) $(p\text{-}MeC_6H_4\text{-}SO_2NMeCH_2)_2$ (V), m. 167–8.5° (from Me_2CO), hydrolyzed with dil. H_2SO_4 at 155–65° to $MeNHCH_2(CH_2\text{-}NHMe)_2$ (VI), b. 110–14° (*HCl salt*, m. 231°). VI (33 g.) in 40 ml. H_2O, treated first with 60.4 g. $HOCH_2CH_2Cl$ and then with 33.7 g. NaOH in 120 ml. H_2O at 40°, 150 g. NaOH added, the mixt. extd. with $CHCl_3$, and the ext. distd. yielded 12 g. (18%) $(HOCH_2CH_2NMeCH_2)_2$ (VII), b_2 140–55°; *dipicrate*, m. 222–3° (from dil. Me_2CO). VII (11 g.) and 16 g. anhyd. Na_2CO_3 was treated during 30 min. with 32 g. Ph_2CHBr at 150°, refluxed 3 hrs., H_2O and C_6H_6 were added, and the crude I left after evapn. of the C_6H_6 layer was transformed to the *dipicrate*, m. 173–4°; *disuccinate*, m. 141–2.5° (from H_2O). II, m. 67–8° (from petr. ether), $b_{0.4}$ 214–17°, was similarly prepd. in 22% yield from Ph_2CHBr and 1,4-bis(2-hydroxyethyl)piperazine at 140–60°; *disuccinate*, m. 118–19° (from EtOH-Me_2CO). III and $SOCl_2$ in C_6H_6 gave 77% of III.2HCl, m. 185–7° (from EtOH). II *disuccinate* has a strong antihistamine effect.

M. Hudlický

Antihistamine substances. XXXIV. A new type of homologous arylmethyl antihistaminics. [illegible] Exner, Jiří Pliml, and Miroslav Protiva (Výzkumný [illegible] chem., Prague, Czech.). *Chem. Listy* 48, [illegible] cf. *C.A.* 49, 2495.—Refluxing 7.0 g. Ph_2C[illegible] $Me_2NCH_2CH_2Cl$ and 3 g. 70% $NaNH_2$ [illegible] C_6H_6 gave 7.8 g. (73%) $Ph_2CHCH_2OCH_2$[illegible] 143-4° (after purification). $PhCH$ $CHCO_2H$ [illegible] 700 ml. C_6H_6 treated 2 hrs. with 100 g. $AlCl_3$ [illegible] gave after decompn. with 600 ml. ice-H[illegible] HCl [illegible] g. (55%) Ph_2CHCH_2[illegible] Reduction of 22.0 g. I with 4.8 g. Li[illegible] in Et_2O yielded, after decompn. with 10% H_2SO_4, 17 g. (86%) $Ph_2CHCH_2CH_2OH$, $b_{0.4}$ 101-5°. This compd. was transformed in the usual way to $Ph_2CHCH_2CH_2OCH_2CH$[illegible] (yield 78%); *HCl salt*, m. 132° (from [illegible] $CHCOCl$ (29.2 g.) in 300 ml. Et_2O added to [illegible] g. C_5H_{11}[illegible] in 300 ml. Et_2O gave overnight, 20.7 g. (58%) $Ph_2CHCONC_5H_{10}$ (II), m. 108-9°. Refluxing 12.8 g. II and 2 g. $LiAlH_4$ in 600 ml. Et_2O 24 hrs. (with stirring), decompg. the mixt. with 60 ml. H_2O and 100 ml. 3*N* H_2SO_4, alkalizing the aq. layer with 40% KOH, and extg. the latter with [illegible] yielded 7.2 g. (59%) $Ph_2CHCH_2NC_5H_{10}$, b. 167-70° [illegible] 157-9°; *HCl salt*, m. 110°. $(PhCH_2)_2C$[illegible] transformed to $(PhCH_2)_2C:NOH$, m. 122-3° which, (28 g.) hydrogenated in 150 ml. EtOH over 6 g. R[illegible] at 100° and 115 atm. initial pressure [illegible] $(PhCH_2)_2CHNH_2$, m. 44-5°, $b_{0.4}$ 1[illegible] 258 9°. None of the prepd. compds. [illegible] histaminic.

M. Hudlický

PROTIVA, M.; EXNER, O.; BOROVICKA, M.; PLIML, J.

Antihistamine substances. Part 22: synthetic antispasmodics. Part 4. Basic ethers derived from aliphatic carbinols and α-substituted benzyl alcohols [in English with summary in Russian]. Sbor.Chekh.khim.rab. 18 no.1:86-101 F '53. (MLRA 7:6)

1. Pharmaceutical and Biochemical Research Institute, Prague. (Antihistamines) (Antispasmodics)

EXNER, O.

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Antihistamine substances. XXIII. Sulfonium analogs of antihistaminics of the monoamine and diamine series. O. Exner, M. Borovička, and M. Protiva (Pharmacol. Biochem. Research Inst., Prague, Czech.). *Collection Czechoslov. Chem. Communs.* 18, 270-4(1953)(in English).—See *C.A.* 47, 4290*d*.

A. M. M.

Ganglionic blocking agents. I. Sulfonium analogs of
the lower methonium iodides. Miroslav Protiva, Jiří O.
Jílek, and Otto Exner (Farm. biochem. výzkumný ústav,
Prague, Czech.). Chem. Listy 47, 580-3(1953).—As S
analogs of the lower methonium iodides were prepd. sul-
fonium salts from $MeS(CH_2)_2SMe$, from $(MeSCH_2CH_2)_2S$
(I), and from $MeSCH_2CH_2OCOC:CH.CH:CHN\,CH$ (II

MeSH [from 30 g. $MeSC(:NH)NH_2.H_2SO_4$] passed through a
soln. of 4 g. Na in 100 ml. EtOH, the soln. treated with 15 g.
$(CH_2Br)_2$, the boiling (from a spontaneous evolution of heat)
continued 2 hrs., the mixt. filtered, the filtrate evapd., the
residue dild. with 30 ml. Et_2O, washed with 30 ml. H_2O,
the sepd. aq. layer extd. with 30 ml. Et_2O, and the ether
exts. evapd., and distd. gave 6.3 g. (64%) $(CH_2SMe)_2$,
b_{15-18} 78-80°; *monomethiodide*, m. 93-4° (from EtOH).
Similarly were prepd., $MeS(CH_2)_3SMe$, b_{16} 93° (65%) [*di-
methiodide*, m. 154° (decompn.) (from aq. EtOH)]; MeS-
$(CH_2)_4SMe$ [from $I(CH_2)_4I$], b_{18} 121-3° [*dimethiodide*, m.
160-7° (decompn.)]; $MeS(CH_2)_5SMe$, b_8 112-14° (*di-
methiodide*, m. 176-8°). A mixt. of 18 g. $(CH_2SH)_2$, 3.83 g.
Na, and 125 ml. EtOH refluxed 7 hrs. with 18.5 g. MeS-
CH_2CH_2Cl filtered, the filtrate evapd *in vacuo*, the
residue dissolved in 100 ml. Et_2O, and the ether soln.
washed with 50 ml. H_2O and distd. yielded 17 g. (85%) I,
b_1 107° (melting on heating with the hand; *dimethiodide*,
m. 151° (decompn.) (from H_2O). II.2MeI, m. 126° (de-
compn.) (from H_2O).

M. Hudlický

"Synthetic spasmolytics of the ester series." p. 213. (CHEMICKE LISTY, Vol. 47, #2, Feb. 1953, Czechoslovakia)

SO: Monthly List of East European ~~Russian~~ Accessions, Vol. 2, #8 Library of Congress, August

[illegible], O., PROTIVA, M.

"Synthetic Spasmolytics. IX. Sulphonium Analogues of Artan" p. 736, (CHEMICKE LISTY, Vol. 47, no. 5, May 1953, Praha, Czechoslovakia).

SO: Monthly List of East European Accessions, LC, Vol. 2, No. 11, Nov. 1953, Uncl.

EXNER, O. And others

Exner, O. And others. "Pharmacologically interesting pyridine derivatives. Pt. 8. Substituted 2- and 3-benzylpyridines. p. 863 CASOPIS PRO PESTOVANI MATEMATIKY. CZECHOSLOVAK MATHEMATICAL JOURNAL. Vol. 47 no. 6 June. 1953, Praha, Czechoslovakia.

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, L. C. Vol. 3 No. 1 Jan. '54 Uncl.

Reduction fissions with lithium aluminum hydride. Otto Exner (Farm. biochem. výzkumný ústav, Prague, Czech.). *Chem. Listy* 47, 869-73(1953).—Hydrogenolysis of OH and OR groups was observed during the action of LiAlH$_4$ upon 2-(2-pyridyl)-2-phenylethanol (I), 2-(ethylsulfonyl)ethanol (II), and Me 9-fluorenecarboxylate (III). Me 2-pyridylacetate (IV) gives normally 2-(2-pyridyl)ethanol (V). The double bond of 1-phenyl-1-(2-pyridyl)ethylene (VI) is reduced with LiAlH$_4$. 2-Pyridylphenylmethylcarbinol, m. 40° (picrate, m. 178°) (14 g.) in 30 ml. PhMe, added to 50 g. P$_2$O$_5$ in 200 ml. boiling PhMe over 20 min., the mixt. boiled 1 hr., poured into 300 g. ice, alkalinized with 200 ml. 40% NaOH, and the PhMe layer distd., gave 10.1 g. (80%) VI, b$_{0.4}$ 113-15°; *picrate*, m. 151°. *2-(1-Phenylethyl)pyridine* (VII), b$_{0.4}$ 91°, obtained in 88% yield by the hydrogenation of VI over Raney Ni W-2, was also prepd. in 2.6-g. (72%) yield by adding 3.6 g. VI in 20 ml. Et$_2$O to 0.8 g. LiAlH$_4$ in 50 ml. Et$_2$O and 50 ml. Am$_2$O, refluxing the mixt. 4 hrs. (50°), decompg. with 100 ml. 20% soln. of NaO$_2$C(CHOH)$_2$CO$_2$K, extg. with Et$_2$O, washing the ext. with 20 ml. HCl (1:5), liberating the base with 40% NaOH, extg. with Et$_2$O, and distg.; it was prepd. in 28% yield by a similar procedure from I. Mixing 10.6 g. EtSCH$_2$CH$_2$OH, b$_{11}$ 70-72°, in 50 ml. AcOH with 17.9 ml. of a liquid contg. 6.8 g. H$_2$O$_2$, cooling the mixt. below 45°, letting stand overnight, and distg. gave 11.4 g. (83%) II, b$_{0.4}$ 134-6°, m. 44°. II (2.8 g.) in 30 ml. C$_6$H$_6$ added at 40° to 0.8 g. LiAlH$_4$ in 80 ml. Et$_2$O, the mixt. refluxed (43°) 3 hrs., decompd. with 1.6 ml. H$_2$O, the inorg. compds. extd. with C$_6$H$_6$, and the ext. evapd. at 20 mm. yielded 1.95 g. (79%) Et$_2$SO$_2$, m. 70-1° (from CCl$_4$). Adding 5.2 g. III in 20 ml. C$_6$H$_6$ and 30 ml. Am$_2$O to 1.6 g. LiAlH$_4$ in 10 ml. Et$_2$O and 30 ml. Am$_2$O, refluxing the mixt. 10 hrs. at 75-80°, decompg. with 100 ml. HCl (1:1), evapg. the org. layer, and chromatographing the residue gave 0.71 g. (17%) *9-methylfluorene*, m. 45°, 2.52 g. (61%) *9-methyl-9,9'-difluorenylmethane*, m. 172° (from C$_6$H$_6$-EtOH), 9,9'-dimethyl-9,9'-bifluorene, m. 205°, and an unidentified fraction (0.14 g.). Reduction of 1.6 g. IV, b$_{16}$ 114°, in 10 ml. Et$_2$O with 0.8 g. LiAlH$_4$ in 25 ml. Et$_2$O by refluxing 3 hrs. gave 68% V, isolated as the picrate, m. 119°. The reduction at 85° gave no 2-ethylpyridine.

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Antihistamine substances. XXIX. Pyridine analogs of Benadryl. Miroslav Protiva and Otto Exner (Farm. bio-chem. výzkumný ústav, Prague, Czech.). *Chem. Listy* 47, 1033-40(1953); cf. *C.A.* 47, 11194b.—Pyridine analogs of Benadryl were prepd. by the reaction of C_5H_5N and its homologs with $Ph_2CHOCH_2CH_2Cl$ or $Ph_2CHOCH_2CH_2I$ (I). The highest antihistamine activity, equal to 20% of that of Benadryl, was obtained from the deriv. of C_5H_5N. Ph_2CHBr (120 g.) and 100 g. ICH_2CH_2OH (b_{14} 80-81°), treated with 60 g. anhyd. Na_2CO_3 and heated 5 hrs. at 130° gave 131 g. (80%) I, b[illegible] 156-8°, $b_{0.4}$ 167°. The compds. of the general formula $[Ph_2CHOCH_2CH_2N{:}CHCH{:}CH.CH{:}CH]^+I^-$ (II), where alkyls were substituted for the pyridine hydrogens, were prepd. by allowing I to stand with 20% excess of the pyridine base at room temp., or by heating the mixt. 20-30 hrs. at 100°. Alkyls position, temp., yield (%), and m.p. of II: —,—, 20°, 87, 165°; Me, 2, 29°, 23, 170°; Me, 3, 20°, 80, 112°; Me, 4, 20°, 81, 171°; di-Me, 2,4, 100°, 70, 120°; di-Me, 2,6, 100°, 36, 170°; tri-Me, 2,4,6, 100°, 44, 132°; benzo-, 2,3, 20°, 36, 180°. $Cl(Ph_2CHOCH_2CH_2)N{:}CH.CH{:}CH.CH{:}CH$, prepd. by heating C_5H_5N with $Ph_2CHOCH_2CH_2Cl$ 24 hrs. at 70-90° in 27% yield, m. 103°. **XXX. Synthetic spasmolytics. (2). Hydrazinium salts.** *Ibid.* 1481-5.—Highly active antihistaminics and spasmolytics were prepd. by the reaction of β-substituted ethyl chlorides with H_2NNMe_2. $p\text{-}MeC_6H_4CHPhCl$ (25 g.), 10 g. $ClCH_2CH_2OH$ (I), and 15 g. anhyd. Na_2CO_3 refluxed 5 hrs. at 130°, cooled, dild. with 20 ml. C_6H_6, filtered, and the soln. evapd. and distd. to yield 25.9 g. (86%) $p\text{-}MeC_6H_4CHPhOCH_2CH_2Cl$, $b_{0.7}$ 150-6°, $b_{0.6}$ 153°. Refluxing 19.7 g. $PhPrCHCOCl$ 8 hrs. with 8.4 g. I gave 20.4 g. (81%) $PhPrCHCOOCH_2CH_2Cl$, $b_{0.6}$ 117-19°. Similarly were obtained 88% $Ph_2CHCOOCH_2CH_2Cl$, $b_{0.4}$ 160°, and $C_6H_{11}PhCHCOOCH_2CH_2Cl$ (87%), b_1 151-2°, m. 37° (from aq. EtOH). $Me_2NNH_2.HCl$ (2.1 g.) mixed with 0.5 g. Na in 20 ml. EtOH gave Me_2NNH_2 which treated with 6.7 g. $Ph_2CHOCH_2CH_2I$ (II) overnight at room temp., yielded 4.1 g. (53%) $Ph_2CHOCH_2CH_2N(NH_2)Me_2I$, m. 159° (from EtOH). Substituted 1,1-dimethylhydrazinium chlorides were prepd. by treating, at room temp., 30% excess of Me_2NNH_2 with substituted ethyl chlorides (yields, m.ps.): $Ph_2CHOCH_2CH_2N(NH_2)Me_2Cl$, 99, 137°; $p\text{-}MeC_6H_4CHPhOCH_2CH_2N(NH_2)Me_2Cl$, 98, 132-3°; $PhPrCHCOOCH_2CH_2N(NH_2)Me_2Cl$, 63, 90°; $Ph_2CHCOOCH_2CH_2N(NH_2)Me_2Cl$, 73, 146°; $C_6H_{11}PhCHCOOCH_2CH_2N(NH_2)Me_2Cl$, 99, 127-8°. Refluxing 6.8 g. II with 1.6 g. $CS(NH_2)_2$ and 5 ml. EtOH 3 hrs., and pptg. with Et_2O yielded 7.8 g. (66%) $Ph_2CHOCH_2CH_2SC({:}NH)NH_2I$, m. 142° (from EtOH-$Et_2O$). **XXXI. Contribution to the mechanism of the antihistamine activity. Simple benzylammonium and benzhydrylammonium salts.** Miroslav Protiva, Jiří O. Jílek, Otto Exner, Miloš Borovička, Jiří Pliml, Vladislav Šimák, and Zdeněk Šedivý. *Ibid.* 1621-32.—From the study of antihistamine substances it follows that the ac-

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Miroslav Protiva

tivity is due to the presence of arylmethyl groups which can be easily split off as cations. The onium group has only an auxiliary function, that of increasing the solubility of the compd. A chain of three atoms between the onium group and arylmethyl group seems to be essential. A series of slightly active arylmethylammonium compds. was prepd. A spontaneous reaction between 30 ml. 17% alc. Me_2NH and 12.5 g. Ph_2CHBr (I) gave Ph_2CHNMe_2, m. 70-1°, b_2 117-20°; *HCl salt*, m. 244-5° (from EtOH-Et_2O). I (46.5 g.) and 50 ml. $C_5H_{11}N$ gave, after washing with EtOH and H_2O, 41.1 g. (87%) $Ph_2CHNC_5H_{10}$, m. 75°; *HCl salt*, m. 226°. Treating 55.6 g. I with 60 ml. C_5H_5N and washing the crystals with EtOH yielded 46.7 g. (63%) *N-benzhydrylpyridinium bromide*, m. 185-8°. *o-Methylbenzhydryldimethylamine* (from Me_2NH and o-methylbenzhydryl chloride), yield 79%, m. 44-6°, $b_{0.7}$ 105°; *HCl salt*, m. 256-8°. Similarly prepd. were the *m-methyl isomer*, 78%, m. 88-9° (dil. EtOH), $b_{1.4}$ 110-13°, and the *p-methyl isomer*, 60%, $b_{0.4}$ 100-7°. Refluxing 67.6 g. Ph_2CHCN in 670 ml. C_6H_6 with 22 g. 70% $NaNH_2$ 2 hrs. and then refluxing the mixt. with 70 g. MeI 5 hrs. gave, after decompn. with 200 ml. H_2O, 62.7 g. (93%) Ph_2CMeCN, b_{14} 180-1°, b_{10} 178-85°, b_2 133-40°. This compd. yielded by boiling with 75% H_2SO_4 39% $Ph_2CMeCONH_2$, m. 102-3°, which gave by treatment with NaOBr (from 13.5 g. NaOH, 13.5 g. Br, and 70 ml. H_2O) 75% Ph_2CMeNH_2, b_{14} 165-75° [*HCl salt*, m. 235° (MeOH-AcOEt)], and *N,N'-bis(α-methylbenzhydryl)urea*, m. 189-90°; *p*-$PhOC_6H_4Bz$, $b_{0.4}$ 193-200°, gave the oxime, m. 143°, the hydrogenation of which over Raney Ni in EtOH at 100° and initial pressure 80 atm. yielded, after evapn. of the EtOH and treatment with an ether soln. of HCl, 80% *HCl salt* of *p*-$PhOC_6H_4CHPhNH_2$, m. 215° (from MeOH-AcOEt). Boiling 10.4 g. $PhNHCH_2CH_2NMe_2$, 160 ml. C_6H_6, 5.6 g. 70% $NaNH_2$, and 15.3 g. 1-chloroindan 6 hrs. gave 5.35 g. (20%) *N-phenyl-N-(1-indanyl)-N',N'-dimethylethylenediamine*, $b_{0.4}$ 156-7°. Adding at 130° 30.5 g. 1-chloroindan to 12.2 g. $HOCH_2CH_2NH_2$ and heating at 130-40° 1.5 hrs. gave, after treatment with NaOH and extn., 7.5 g. *N-(1-indanyl)ethanolamine*, $b_{0.4}$ 124-4.5°; *HCl salt*, m. 138-9°. $(PhCH_2)_2S$, m. 49°, was prepd. in 85% yield by refluxing 2 hrs. 24.8 g. $PhCH_2SH$ with 25.2 g. $PhCH_2Cl$ in 200 ml. EtOH in which 4.6 g. Na had been dissolved. Similar reaction in which I was substituted for $PhCH_2Cl$ gave 42% $PhCH_2SCHPh_2$, m. 71°. To a soln. of Ph_2CHSNa prepd. from 1.15 g. Na in 25 ml. EtOH and 10 g. Ph_2CHSH was added 13.6 g. I and the mixt. refluxed 6 hrs. to give 9.5 g. (50%) $(Ph_2CH)_2S$, $b_{1.4}$ 220-7°, m. 65-6.5° (from EtOH). Addn. of 10 ml. Et_2O to a soln. of 2.15 g. $(PhCH_2)_2S$, 4.6 g. HgI_2, and 4.3 g. $PhCH_2I$ in 10 ml. Me_2CO pptd. 8.55 g. (96.5%) of a compd., m. 137°, which, after shaking in 100 ml. Me_2CO with 8 g. $AgNO_3$ 6 hrs., filtering, and pptg. the filtrate with H_2S, gave 1.5 g. $[(PhCH_2)_3S]HSO_4$, m. 172° (from EtOH). XXXII. Benzhydryl ethers of glycerol and β-benzhydryloxypropionic acid. Jiří O.

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ek and **Miroslav Protiva.** *Ibid.* 1811-13.—Benzhydryl derivs. prepd. by treating glycerol (I) with Ph_2CHBr (II) and $BrCH_2CH_2CO_2Et$ (III) with Ph_2CHONa (IV) were inactive as antihistamines. Heating 9.2 g. I, $b_{1.4}$ 130-5°, 12.3 g. II, 7 g. anhyd. Na_2CO_3, and 25 ml. xylene at 160-80°, distg. off the xylene, adding another 25 ml. xylene, and repeating 4 times gave, after diln. with 50 ml. H_2O and extn. with C_6H_6, 2.35 g. of the *dibenzhydryl ether*, $b_{0.5}$ 220-30°. When 10.6 g. Na_2CO_3 and 46 g. I were heated 4 hrs. at 140° with 12.3 g. II, 5.1 g. of the *monobenzhydryl ether*, $b_{0.4}$ 160-70°, and 0.5 g. of the *tribenzhydryl ether*, m. 99-101° (from EtOH), were obtained. IV, prepd. from 1.5 g. Na dust and 12 g. Ph_2CHOH in 100 ml. C_6H_6, was refluxed 2 hrs. with 12 g. III to give 7.6 g. $Ph_2CHCH_2CH_2CO_2Et$, which, refluxed with KOH in MeOH and H_2O, gave 1.9 g. $Ph_2CHCH_2CH_2CO_2H$, m. 85° (from petr. ether-C_6H_6). **XXXIII. New types of basic benzyl and benzhydryl ethers.** *Ibid.* 1811-18.—$BzCH_2Cl$ was transformed in 86% yield to $BzCH_2NMe_2$, b_9 119-21° (*picrate*, m. 144°), which gave, by the reduction with $LiAlH_4$ in Et_2O, 83% $PhCH(OH)CH_2NMe_2$ (I), b_{11} 123-6°; *HCl salt*, m. 140-6°; *methiodide*, m. 225-6°. Refluxing 16.5 g. I, 16 g. anhyd. Na_2CO_3, and 30 ml. xylene at 160°, adding 12.5 g. $PhCH_2Cl$, and continuing the heating gave a mixt. consisting of $PhCH_2NMe_2$ (*HCl salt*, m. 175°), I, a compd. m. 67°, and BzMe (semicarbazone, m. 198-9°). Treating 13 g. I in 100 ml. C_6H_6 with 4.6 g. 70% $NaNH_2$ at room temp. and boiling the mixt. with 10 ml. $PhCH_2Cl$ in 10 ml. C_6H_6 5 hrs. yielded 2 g. $PhCH_2NMe_2$, 2.4 g. I, and 9.7 g. (48%) $PhCH(OCH_2Ph)CH_2NMe_2$, b_{20} 175-80°, $b_{1.4}$ 127-9° [*HCl salt*, m. 177° (from Me_2CO)]. To a mixt. prepd. from 5.8 g. 70% $NaNH_2$ in 60 ml. C_6H_6 and 10.9 g. 3-pyridylcarbinol (b_{18} 142-52°) in 10 ml. C_6H_6 was added 24.7 g. Ph_2CHBr in 25 ml. C_6H_6, and the mixt. refluxed 5 hrs. to give 0.9 g. $(Ph_2CH)_2$, m. 210-12°, and 5 g. (18%) crude *3-benzhydryloxymethylpyridine*; *picrate*, m. 160°. $Ph_2MeCOCH_2CH_2NMe_2$ (II) (cf. *C.A.* 45, 577e) (2.14 g.) in 25 ml. EtOH and 1.7 g. 8-chlorotheophylline (m. 291°) mixed with 25 ml. Et_2O gave 3.3 g. of the *8-chlorotheophyllinate*, $C_{26}H_{32}ClN_5O_3$ (III), m. 160°. *Picrate* of II m. 127-8°. Ph(iso-Bu)CHOH (164 g.) and 107.5 g. $Et_2NCH_2CH_2Cl$ gave, by the $NaNH_2$ method, 156.3 g. (59%) Ph(iso-Bu)$CHOCH_2CH_2NEt_2$, $b_{1.4}$ 115-25°; *citrate*, m. 90° (from EtOH-Et_2O). Only compd. III showed antihistamine activity. **M. Hudlický**

EXNER, O.; SIMAK, V.; JILEK, J.O.; PROTIVA, M.

Synthesis in the estrogene hormone group. Part 1. m-methoxyphenylacetylene [in English with summary in Russian]. Sbor.Chekh.khim.rab. 19 no.2:330-332 Ap '54. (MLRA 7:6)

1. Pharmaceutical and Biological Research Institute, Prague.
(Estrogens)

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Synthetic spasmolytics. VI. Sulfonium analogs of the ester type spasmolytics. Miroslav Protiva and Otto Exner (Pharm. Biochem. Research Inst., Prague). Collection Czechoslov. Chem. Communs. 19, 874-9(1954)(in English).—See C.A. 49, 1081.

E. J. C.

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✓ **Antihistamine substances. XXX. Synthetic Spasmolytics. (10). Hydrazinium salts.** Miroslav Protiva and Otto Exner (Pharm. Biochem. Research Inst., Prague). *Collection Czechoslov. Chem. Communs.* 19, 531-5(1954)(in English).—See *C.A.* 49, 247i. B. J. C.

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Antihistamine substances. XXXI. Contribution to the mechanism of the antihistamine activity. Simple benzyl ammonium and benzhydrylammonium salts. Miroslav Protiva, Jiří O. Jílek, Otto Exner, Miloš Borovička, Jiří Pliml, Vladislav Šimák, and Zdeněk Šedivý (Pharm. Biochem. Research Inst., Prague). *Collection Czechoslov. Chem. Communs.* 19, 732-43(1954)(in English).—See *C.A.* 49, 219c. XXXV. Kinetics of the hydrolysis of antihistaminics of the benzhydryl type. Eduard Knobloch, František Mácha, Otto Exner, and Miroslav Protiva. *Ibid.* 976-81.—See *C.A.* 49, 2425e. E. J. C.

EXNER, OTTO

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Reduction fissions with lithium aluminum hydride. Otto Exner. *Collection Czechoslov. Chem. Communs.* 19, 1184-6(1954)(In English). See C.A. 49, 4166. E. J. C.

EXNER, O.

"Antihistamine substances. XXXIV. New type of homologues of arylmethyl antihistaminics." Ceskoslovenska Morfologie, Praha, Vol. 48, No. 1, Jan. 1954, p. 65.

SO: Eastern European Accessions List, Vol. 3, No. 11, Nov. 1954, L.C.

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Antihistamine substances. XXXV. Kinetics of the hydrolysis of antihistaminics of the benzhydryl type. Eduard Knobloch, František Mácha, Otto Exner, and Miroslav Protiva (Výzkumný ústav farm. biochem., Prague, Czech.). *Chem. Listy* 48, 228-31(1954); cf. *C.A.* 49, 1604d.—Kinetic measurements of the hydrolysis of antihistaminics of the benzhydryl type indicate the acid-catalyzed cryptobimolecular reaction. The generally accepted scheme of this reaction was checked by the primary salt effect. The effect of substituents in various positions of the diphenylmethane radical on the hydrolysis rate corresponds to the theoretical considerations. The rate of hydrolysis and antihistamine activity parallel each other though not without exceptions. **XXXVI. Preparation of *p*-substituted analogs of Antistine.** Jiří O. Jílek, Josef Pomykáček, and Miroslav Protiva (Výzkumný ústav farm. biochem., Prague, Czech.). *Ibid.* 232-4.—p-$MeC_6H_4CH:NPh$, m. 43-4°, $b_{0.4}$ 125-6° (50 g.) in 85 ml. MeOH hydrogenated over 10 g. Raney Ni at normal temp. and 100 atm. gave 51 g. (100%) p-$MeC_6H_4CH_2$-

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NHPh (I), m. 12-5°; *HCl salt*, m. 181° (from EtOH). Similarly was prepd. *p*-MeOC$_6$H$_4$CH$_2$NHPh (II), m. 64-6° (from EtOH), from *p*-MeOC$_6$H$_4$CH:NPh, m. 60°. To prep. *p*-ClC$_6$H$_4$CH$_2$NHPh (III), 232 g. PhNH$_2$ in 60 ml. H$_2$O and 66.2 g. NaHCO$_3$ were treated at 90-5° with 100 g. *p*-ClC$_6$H$_4$CH$_2$Cl, b$_{15}$ 96°; distn. of the filtered crude product gave 51 g. (38%) III, b$_{4}$ 135-40°; *HCl salt*, m. 207°. 2-Chloromethylimidazoline-HCl (IV), m. 190-2°, and PhCH$_2$NHPh gave *2-(N-benzylanilinomethyl)-2-imidazoline* (Antistine), m. 121-3°; *HCl salt*, m. 233-4°; methanesulfonate, m. 168-9°. IV (17.2 g.), 50 g. I, and 75 ml. EtOH refluxed 8 hrs., the EtOH distd. off, the residue stirred with 90 ml. H$_2$O, mixed with 8.5 g. NaHCO$_3$ in 90 ml. H$_2$O at 50-60°, the mixt. extd. with PhMe, and the aq. phase allowed to cryst. in the icebox gave 16.3 g. (52%) *HCl salt of 2-[N-(p-methylbenzyl)anilinomethyl]-2-imidazoline*, m. 224° (from EtOH). Similarly were prepd., from II, *2-[N-(p-methoxybenzyl)anilinomethyl]-2-imidazoline-HCl*, m. 209-12° (from EtOH-Me$_2$CO), and, from III, the *2-[N-(p-chlorobenzyl)anilinomethyl] analog*, m. 233-3°. M. Hudlický [redacted], EXNER, Otto

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Antihistamine substances. XXXVII. Synthetic spasmolytics. XI. **Phosphonium salts.** Comparison of activities of various types of onium salts. Miroslav Protiva and Otto Exner (Výzkumný ústav farm. biochem., Prague). *Chem. Listy* 48, 1370-3(1954); *Collection Czechoslov. Chem. Communs.* 20, 210-13(1955)(in English); cf. *C.A.* 49, 2471, 2425g.—Addition of $Ph_2CHOCH_2CH_2I$ (I) and $C_6H_{11}Ph$-$CHCO_2CH_2CH_2I$ (II) to Et_3P gave P analogs of Benadryl and Trasentine H. Refluxing 47.4 g. $C_6H_{11}PhCHCOCl$ (III) and 34.5 g. ICH_2CH_2OH in 140 ml. C_6H_6 3 hrs., washing the soln. with H_2O, 2% $Na_2S_2O_3$, and again H_2O, and evapg. the soln. yielded 73 g. II, m. 64° (from aq. EtOH), $b_{0.4}$ 158-61°. Heating 9.6 g. II, 0.5 ml. EtOH, and 3 g. Et_3P (b. 115-25°) 8 hrs. at 120° in a sealed tube under N gave 7.9 g. $C_6H_{11}Ph$-$CHCO_2CH_2CH_2PEt_3I$ (IV), m. 123-4° (from Me_2CO and Et_2O). Heating 4.7 g. Et_3P, 13.5 g. I, and 1 ml. EtOH under N in a sealed tube 5 hrs. at 100-20°, dissolving the oil in 10 ml. EtOH, and pptg. with Et_2O gave 3.53 g. Ph_2-$CHOCH_2CH_2PEt_3I$, m. 120° (from EtOH), and $HOCH_2$-

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CH_2PEt_2I, m. 237° (from EtOH). $Ph_2CHOCH_2CH_2NEt_2$,
prepd. by alkalization of 8 g. HCl salt, was treated with 5 g.
EtI to give 8.65 g. $Ph_2CHOCH_2CH_2NEt_3I$, m. 1[illegible]° (from
EtOH). Treating 5.9 g. III with 2.3 g. $HOCH_2CH_2NMe_2$
and 10 ml. C_6H_6 yielded 7.3 g. $C_6H_{11}PhCHCO_2CH_2CH_2N$-
Me_2.HCl, m. 107° (from Me_2CO-Et_2O). The free base (12.9
g.) liberated from the HCl salt was treated with 8 g. MeI
to give 10 g. $C_6H_{11}PhCHCO_2CH_2CH_2NMe_3I$, m. 102° (from
EtOH). Refluxing 3.7 g. II 5 hrs. with a soln. of MeSNa
prepd. from 0.23 g. Na in 10 ml. MeOH and from MeSH,
evapg. the MeOH, washing the residue with water, and
extg. with C_6H_6 gave 1.9 g. $C_6H_{11}PhCHCO_2CH_2CH_2SMe$,
b_1 150-60°. Mixing 1.8 g. of the sulfide with 2 ml. MeI
gave 2.00 g. $C_6H_{11}PhCHCO_2CH_2CH_2SMe_2I$ (V), m. 101°.
Spasmolytic action of IV and V is much higher than that of
Trasentine H. XLVIII. Hydrolysis of 2-(*N*-benzylanil-
inomethyl)imidazolines. J. O. Jilek and M. Protiva. *Chem.*
Listy 48, 1684-5(1954).—Alk. hydrolysis of $PhCH_2NPhCH_2$-
$C{:}N.CH_2.CH_2.NH$ (I) by heating the HCl salt of I in aq.
NaOH 5 hrs. at 90°, and treatment of the base with HCl in
Et_2O gave *dihydrochloride hydrate* of $PhCH_2NPhCH_2CO$-
$NHCH_2CH_2NH_2$ (II), m. 135-7° (decompn.) (from EtOH).
Refluxing I 3 hrs. with H_2O gave an oil from which abs. alc.
HCl pptd. anhyd. *mono-HCl salt* of II, m. 185-6°, whereas in
the presence of H_2O was obtained *di-HCl with hydrate*.
Both salts give identical $HClO_4$ salt of II, m. 125-8°.

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Exner, Otto

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Derivatives of oximes. II. Reduction of *O*- and *N*-alkyl oximes with lithium aluminum hydride. Otto Exner (Czech. akad. ved, Prague). *Chem. Listy* 48, 1513-9 (1954); *Collection Czechoslov. Chem. Communs.* 20, 202-8 (1955)(in English); cf. *C.A.* 47, 5881e.—The reduction of *N*-substituted oximes with $LiAlH_4$ gave high yields of *N*,*N*-disubstituted hydroxylamines, whereas the reduction of *O*-substituted oximes led to amines, the *O*-substituent being split off as an alc. The reduction was carried out by dropping a soln. of the substituted oxime into a soln. of $LiAlH_4$, by refluxing the mixt. under mech. stirring, decompg. the mixt. with H_2O (1.5 ml. H_2O per 1 g. $LiAlH_4$), filtering off the inorg. compds., extg. them 3 times with Et_2O, drying the ext., and evapg. the solvent at 80° and 100 mm. A soln. of 3.17 g. $PhCH:N(O)CH_2Ph$ (m. 82°) in 20 ml. Et_2O and 20 ml. C_6H_6 refluxed with 0.3 g. $LiAlH_4$ in 20 ml. Et_2O 2 hrs. yielded 2.69 g. $(PhCH_2)_2NOH$, m. 123° (from EtOH). Similarly were prepd. [starting compd., m.p., solvent, time of refluxing (hrs.), % yield, product, m.p. given]: $Ph_2C:N(O)CH_2Ph$, 110°, Et_2O and C_6H_6, 2, 90, Ph_2CH-$(PhCH_2)NOH$, 103° (from C_6H_{12}) (oxidation with HgO in $CHCl_3$ gave $PhCH:N(O)CH_2Ph$, m. 150°); $PhCH:N(O)$-Me, 84°, Et_2O and C_6H_6, 2, 94, $PhCH_2MeNOH$, 43° (from petr. ether); $Ph_2C:N(O)Me$, 103°, Et_2O and C_6H_6, 2, 91, $Ph_2CHMeNOH$, 82° (from cyclohexane). $(PhCH_2)_2NOH$ refluxed with $LiAlH_4$ in tetrahydrofuran 10 hrs. was recovered unreduced. Refluxing 4.3 g. $Ph_2C:NOCH_2Ph$, m. 68°, with 0.75 g. $LiAlH_4$ in C_4H_8O 25 ml. 7 hrs. and decompg. the mixt. with H_2O gave 0.8 g. (23%) of an addn. compd. 2 $Ph_2CHNH_2.HO(CH_2)_2OH$ (I), m. 87° (from EtOH-petr. ether 1:25), which treated with HCl in Et_2O yielded 98% $Ph_2CHNH_2.HCl$ (II), m. 279° (decompn.) (from EtOH-Et_2O); $Ph_2CHNHSO_2C_6H_4Me$-*p*, m. 185°. In addn. to I, 65% II and 69% $PhCH_2OH$ were isolated from the mixt. I was prepd. independently by mixing 2 moles Ph_2CHNH_2, b_{14} 172-4°, with 1 mole $(CH_2)_2(OH)_2$, b_{18} 125-