BOROVICKA, B.

CZECHOSLOVAKIA / Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G-3

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Author : Pliml, J., Borovicka, M., and Protiva, M. and Protiva, M., Borovicka, B., Cimler, L., and Sedivy, Z.
Inst : Not given.
Title : Synthetic Analogs of the Curare Alkaloid. VI. Some Notes on the Preparation of Tris-2-diethylaminoethyl) Ether of Pyrogallol. VII. Two New Models for Tubocurare and Two Bis-quatornary Ammonium Salts.

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Abstract: See RZhKhim, 1957, 51218; 1958, 4777.

Card 1/1

BOROVJCKA, J.

Measurement of field intensity of the Bratislava television transmitter. p. 96.

(Sdelovaci Technika. Vol. 5, no. 3, Mar. 1957. Praha, Czechoslovakia)

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

BOROVICKA, Lumir, inz.

"Frames, arches and connected structures" by Rudolf Abdnak. Reviewed by Lumir Borovicka. Inz stavby 10 no.4:158. Ap '62.

BOROVICKA, Lumir, inz.

"Prestressed concrete constructions" by Wolfgang Herberg. Reviewed by Lumir Borovicka. Inz stavby 10 no.4:158-159. Ap '62.

BOROVICKA, Lumir, inz.

Concreting by cantilever method or assembling of bridges of greater span? Inz stavby 10 no.7:241-247 Jl '62.

1. Dopravoprojekt, Bratislava.

BOROVICKA, Lumir, inz.

Large-span bridges from prefabricated elements. Inz. stavby 12 no.7:322-323 Jl'64

BOROVICKA, Lumir, inz.

New constructions of girder bridges made secure by cables.
Inz stavby 12 no.8:371-373 Ag '64.

BOROVICKA, Lumir, inz.

Construction of a bridge in the vicinity of Maracaibo. Inz stavby 12 no.9:413-416 S '64.

1. Research Institute of Engineering Construction, Bratislava.

BOROVICKA, L., inz.; BULAK, J.; HOBST, L., inz. dr.; MEDEISKY, V., inz.;
PYSNY, T., inz.; SEDLACEK, J., inz.; SCHWARZ, V., inz.

Concept of the technical development of engineering constructions.
Inz stavby 12 no.12: Suppl: Mechanizace no.12:521-547 '64.

BOROVICKA, Lumir, inz.

Model research on bridge assembling by the cantilever method.
Inz stavby 12 no.11:489-495 N '64.

1. Research Institute of Engineering Construction, Bratislava.

BOROVICKA, Lumir, Ing.

Road bridges in the German Democratic Republic. Inz. stavby 12 no.12: 562-565 D '64.

1. Research Institute of Engineering Construction, Bratislava.

C-A

PROCESSES AND PROPERTIES INDEX

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Antihistamine substances. VII. Methylbenzhydryl 2-(1-piperidyl)ethyl ethers. M. Protiva and M. Borovička. *Collection Czechoslov. Chem. Communs.* 13, 582-3(1948) (in English); cf. *C.A.* 42, 8188h, 8189i.—Three new methylbenzhydryl 2-(1-piperidyl)ethyl ethers, Ph(MeC$_6$H$_4$)CHOCH$_2$CH$_2$NC$_5$H$_{10}$, were prepd. by condensation of the Na salts, NaOR, of the 3 racemic methylbenzhydrols (R being *o*-, *m*-, and *p*-methylbenzhydryl, resp.) with C$_5$H$_{10}$NCH$_2$CH$_2$Cl in dry xylene at 100°. The crude ethers were isolated by distn. *in vacuo* and characterized through the cryst. HCl salts. *dl*-*o*-Me ether (I) (75% yield), b$_1$ 75-83° [HCl salt m. 150-9.5° (cor.)]; *m*-isomer (II) (84%), b$_{0.4}$ 190-200° [HCl salt m. 141-2° (cor.)]; *p*-isomer (80%), b$_1$ 190-2° [HCl salt m. 130-8° (cor.)]. The starting racemic methylbenzhydrols were prepd. from the appropriate MeC$_6$H$_4$Br and BzH by the Grignard reaction; *o*- (42%) m. 80°; *m*- (60%) b$_3$ 159-62°, m. 47-9°; *p*- (45%) b$_3$ 151-5°, m. 45-50°. I, II, and III have considerable *antihistamine activity*, and are less toxic and slightly less active than the corresponding benzhydryl compd.

R. E. Dunbar

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

2-Dimethylaminocyclohexanone. M. Protiva and M. Borovička. *Chem. Listy* 44, 91(1050).—2-Chlorocyclohexanone (I) (132 g.) and 300 g. 25% Me_2NH in EtOH were heated 1 hr. at 100° and 8 hrs. at 140° in an autoclave. From the acidified reaction mixt., 42 g. I was recovered by extn. with ether. The crude product, obtained with alkali, yielded 34.5 g. 2-dimethylaminocyclohexanone, $b_{[illegible]}$ 98-105°, $b_{[illegible]}$ 104-8°. The free base is unstable. M. H.

CA

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Antihistamine substances. XVIII. Derivatives of benzosuberan and some related compounds. M. Protiva and M. Borovička (Czech. Chem. Works, Prague). *Collection Czech. Chem. Communs.* 16, 87-96(1951)(in English); cf. *C.A.* 46, 5006b.—Basic ethers of 5-phenyl-5-benzosuberol, 5-benzosuberol, 1-indanol and 1,2,3,4-tetrahydro-1-naphthol were prepd. and their antihistamine activities detd. The ethers were prepd. by heating the carbinol with $Me_2NCH_2CH_2Cl$ or $(CH_2)_5NCH_2CH_2Cl$ with $NaNH_2$ in C_6H_6. Derivs. of benzosuberan: *dl-5-phenyl-5-(2-dimethylaminoethoxy)*, *methiodide*, m. 195-6°; *dl-5-phenyl-5-[2-(1-piperidyl)ethoxy]*, not cryst.; *dl-5-(2-dimethylaminoethoxy)*, *methiodide*, m. 160-2°; *dl-5-[2-(1-piperidyl)ethoxy]*, $b_{0.4}$ 170-2°. Derivs. of indan: *dl-1-(2-dimethylaminoethoxy)*, *HCl salt*, m. 148.5-9.5°; *dl-1-[2-(1-piperidyl)ethoxy]*, b[illegible] 155-60° (*picrate*, m. 119-20°). Derivs. of 1,2,3,4-tetrahydronaphthalene: *dl-1-(2-dimethylaminoethoxy)*, b[illegible] 140-3° (*picrate*, m. 162-3°); *dl-[2-(1-piperidyl)ethoxy]*, b[illegible] 177-9° (*methiodide*, m. 102-3°).

Alfred Hoffman

Antihistamine substances. XXIII. Sulfonium analogs
of antihistamines of the monoamine and diamine series.
Otto Exner, Miloš Borovička, and Miroslav Protiva (Bio-
chem. and Pharm. Research Inst., Prague, Czech.). *Chem.*
Listy 46, 344-6(1952); cf. C.A. 46, 8009i, 8082e.—Ph_2
$CHCH_2CH_2OH$ (27.7 g.) satd. with dry HBr gave 30.4 g.
(84.5%) $Ph_2CHCH_2CH_2Br$ (I), b_1 148-52°, b_1 145°, m. 43°
(from EtOH). I (13.3 g.) added to a soln. of 1.15 g. Na in
20 ml. EtOH satd. with MeSH, the mixt. refluxed 2 hrs.,
the NaBr removed, and the filtrate evapd., dild. with 30
ml. Et_2O, washed with dil. AcOH, and distd. yielded 10.2 g.
(84.3%) $Ph_2CHCH_2CH_2SMe$, 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 130° with stirring, dild. with 50 ml. C_6H_6
and 50 ml. H_2O, and the C_6H_6 layer washed with 50 ml. H_2O
and distd. gave 9.4 g. (36.5%) $PhCH_2N(Ph)CH_2CH_2SMe$
(IV), $b_{0.1}$ 166-73°; *HCl salt*, m. 147° (from Et_2O-Me_2CO).
PhSNa and III gave 73.5% $PhSCH_2CH_2SMe$ (V), $b_{0.1}$ 117°.
Ph_2CHSH (10 g.) and 5.6 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), $b_{0.1}$ 166-70°.
Sulfonium salts (methiodides) were prepd. by allowing the
sulfides to stand 2-4 days with excess MeI. II-MeI (70%)
m. 128°, IV-MeI m. 117°, V-MeI (92%) m. 95°, and VI-
MeI (75%) m. 114-15°. The antihistamine effect of the
methiodides is very low. XXIV. α-Alkyl homologs of anti-
histamines of the *N*-benzylethylenediamine series. Mi-

roslav Protiva, Jiří Plíml, Miloš Borovička, and Václav
Řeřicha. *Ibid.* 346-9.—$NaNH_2$ (35 g.) in 400 ml. C_6H_6,
53 g. $PhNH_2$, and 61 g. $Me_2NCH_2CH_2Cl$, refluxed 4 hrs.
and the mixt. worked up gave 12.5 g. recovered $PhNH_2$,
42.8 g. (60%) $PhNHCH_2CH_2NMe_2$ (I), b_1 102-4°, $b_{0.4}$
101° [*di-HCl salt*, m. 156° (from EtOH); *monopicrate*, m.
121-3° (from EtOH)], and 24 g. of a higher-boiling frac-
tion, $PhN(CH_2CH_2NMe_2)_2$ [*dipicrate*, m. 162° (from
H_2O)]. The following were similarly prepd.: 2-(2-di-
methylaminoethylamino)pyridine (II), $b_{0.1}$ 115-17°, 2-(2-di-
ethylaminoethylamino)pyridine (III), $b_{0.5}$ 103-6° (*dipicrate*,
m. 185-6°), and 2-[2-(1-piperidyl)ethylamino]pyridine (from
2-(1-piperidyl)ethyl chloride), $b_{0.3}$ 155-60° (*dipicrate*, m.
194-5°). The following α-alkylbenzyl chlorides (IV) were
prepd. from $SOCl_2$ and the carbinols: *Me*, 78%, b_{20} 82°;
Et, 87%, b_{18} 90-2°; *Pr*, 75%, b_{15} 105°; and *Bu*, 70%, b_{14}
126°. From I, IV, and $NaNH_2$ the following $PhN(CH_2$-
$CH_2NMe_2)(CHRPh)$ were prepd. by refluxing 5 hrs. in
C_6H_6: R = *Me* (V), 47%, b_1 188-90° (*picrate*, m. 138-9°);
Et (VI), 48%, $b_{0.4}$ 162-3° b_1 167° (*HCl salt*, m. 154-6°;
picrate, m. 135-8°); *Pr*, 51%, $b_{0.5}$ 162-6° (*picrate*, m. 116-
17°); and *Bu*, 53%, $b_{0.4}$ 160-72° (*picrate*, m. 122-4°). V
[illegible] prepd. by an alternative method from
[illegible] and $PhNH(CHRPh)$ by refluxing with
[illegible] Similarly, 27% 2-[(α-methylbenzyl)-
[illegible] pyridine, $b_{0.1}$ 115-7° (*dipicrate*,
[illegible] 11%, 2-[(α-methylbenzyl)(2-diethylamino-

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Otto Exner,
Miloš Borovička
& Miroslav Protiva

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ethyl)amino]pyridine, $b_{0.4}$ 157–63°, (*dipicrate*, m. 145–5°), 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.—$(Ph_2CHOCH_2CH_2NMeCH_2)_2$ (I), 1-(2-benzhydryloxyethyl)-4-(2-(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-$MeC_6H_4SO_2Cl$ 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. $(p\text{-}MeC_6H_4SO_2NHCH_2)_2$ (IV), m. 160–1° (from EtOH), also obtained, in 46% yield by refluxing 2 hrs. 34.2 g. p-$MeC_6H_4SO_2NH_2$, 11.2 g. KOH, 2[illegible] ml. H_2O, 18.8 g. $(CH_2Br)_2$, and 100 ml. EtOH. I (83 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%) $(p\text{-}MeC_6H_4SO_2NMeCH_2)_2$ (V), m. 167–8.5° (from Me_2CO), hydrolyzed with dil. H_2SO_4 at 155–65° to $MeNHCH_2CH_2NHMe$ (VI), b. 110–14° (*HCl salt*, m. 256°). 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_3 140–55°; *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), $b_{0.1}$ 214–17°, was similarly prepd. in 22% yield from Ph_2CHBr and 1,4-bis(2-hydroxyethyl)piperazine at 140–50°; *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

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)

JILEK, J.O.; BOROVICKA, M.; PROTIVA, M.

Synthetic antispasmodics. Part 5. Cyclic analogues of substances of the 3,3-diphenylpropylamine series [in English with summary in Russian]. Sbor.Chekh.khim.rab. 18 no.2:257-269 Ap '53. (MLRA 7:6)

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

BOROVICKA, M.

H

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, 270-1(1953)(in English).--See C.A. 47, 4299d. A. M. M.

~~Milos, Borovicka~~

Borovicka, Milos

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CZECH

Antihistamine substances. 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 (Pharm. Biochem. Research Inst., Prague). *Collection Czechoslov. Chem. Communs.* 19, 1232-[illegible](1954)(in English).—See *C.A.* 49, 218c. 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.

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BOROVICKA, M.

CZECH

Ganglionic blocking agents. II. Bis-quaternary salts derived from 1,5-diamino-3-thiapentane. Miloš Borovička and Miroslav ~~Protiva (Výzkumný ústav farm. biochem.,~~ Prague). *Chem. Listy* 48, 1374-7(1954); *Collection Czechoslov. Chem. Communs.* 20, 273-6(1955); cf. *C.A.* 49, 166c.—Condensation of *N*-disubstituted 2-aminoethylmercaptides with *N*-disubstituted 2-aminoethylchlorides, and the subsequent reaction of the products with MeI or EtI gave bisquaternary salts derived from 1,5-diamino-3-thiapentane. The compounds resemble in ganglioplegic action their analog pentamethonium iodide. The mercaptans were prepd. by hydrolysis of the isothiuronium hydrochlorides. Isothiuronium hydrochlorides (yield in %, m.p.) and mercaptans (b.p.) are given: $Me_2NCH_2CH_2SC(:NH)NH_2.HCl$, 70, 178-80°, $Me_2NCH_2CH_2SH$ (I), 124-7°; $Et_2NCH_2CH_2SC(:NH)NH_2.HCl$, 75, 192-3°, $Et_2NCH_2CH_2SH$ (II), b_{23} 65-6°; $C_5H_{10}NCH_2CH_2SC(:NH)NH_2.HCl$, 72, 220.5-2° (decompn.), $C_5H_{10}NCH_2CH_2SH$ (III), b_{10-11} 83-7°; $RCH_2CH_2SC(:NH)NH_2.HCl$ (R-morpholino), 65, 235-6° (decompn.), RCH_2CH_2SH (IV), b_{12} 96-7°. Yields of mercaptans were 30-40%. As a by-product, $(Et_2NCH_2CH_2)_2S$, b_{16} 141-3° was isolated. Adding 12 g. I to a soln. prepd. from 2.7 g. Na and 60 ml. EtOH, treating the mixt. after 30 min. with 12.3 g. $Me_2NCH_2CH_2Cl$ in 20 ml. EtOH, refluxing the mixt. 4 hrs., filtering off the salt, evapg. the filtrate, dilg. the residue with 100 ml. Et_2O, washing with H_2O, drying, and evapg. the ext. yielded 12 g. (60%) $(Me_2NCH_2CH_2)_2S$, b_{10} 100°; *bismethiodide*, m. 291-2°; *bisethiodide*, m. 276-7°. Similarly were prepd., from the corresponding chlorides and mercaptides, $(Et_2NCH_2CH_2)_2S$ (from II in 75%), b_{10} 136-7°; *bismethiodide*, m. 259-60°; *bisethiodide*, 258-9°. $(C_5H_{10}NCH_2CH_2)_2S$ (from III in 53% yield), $b_{0.4}$ 130-2°; *bismethiodide*, m. 256-7°; *bisethiodide*, m. 244-5°; $(RCH_2CH_2)_2S$ (from IV in low yield), b_{18} 195-200°; *bismethiodide*, m. 245-6°.

M. Hudlický

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Borovicka, Milos

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M. A. Voutz

3 copies

Tertiary 3-pyridylcarbinols. Miroslav Protiva and Miloš Borovička. Czech. 85,417, Dec. 1, 1955. Tertiary 3-pyridylcarbinols are prepd. by treating arylmagnesium halides with 3-pyridyl alkyl ketones. A Grignard reagent prepd. from 2.4 g. Mg and 15 g. PhBr in 70 ml. Et_2O treated with cooling with 8.2 g. 3-acetylpyridine in 20 ml. Et_2O, the mixt. refluxed 30 min., and the product decompd. with ice and extd. with Et_2O yields *3-pyridylphenylmethylcarbinol*, $b_{0.4}$ 164-7°, m. 80.5-1.5°; *HCl salt*, m. 163-4°. Similarly prepd. were *3-pyridyl(p-tolyl)methylcarbinol*, m. ~108° [*HCl salt*, m. 160-2° (41%)]; *3-pyridylphenylethylcarbinol*, $b_{0.4}$ 171-7°, m. 104-6° [*HCl salt*, m. 126-7.5° (60%)]; and *3-pyridyl(1-naphthyl)methylcarbinol*, m. 180-70° (50%).

L. J. Urbanek

BOROVICKA, Milos; HACH, Vladimir

Natural substances used as drugs; progress during 1954.
Cesk. farm. 4 no.9:478-488 Nov 55.

1. Z Vyzkumneho ustavu pro farmacii a biochemii v Praze.
(BIOLOGICAL PRODUCTS,
pharmacol., review)

BOROVICKA, M.; and others.

Ganglionic blocking agents. III. Quaternary salts derived from 2- (p-aminophenyl) -ethylamine and 2-(p-animophenyl)-propylamine. In Russian. p. 437.

Vol. 20, no. 2, April 1955
SBORNIK CHEKHOSLOVATSKIKH KHIMICHESKIKH RABOT
Praha, Czechoslovakia

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

Ganglionic blocking agents. IV. Pentamethylene-1,5-bis(*N*-methyl)pyrrolidinium salts. M. Borovička, Z. Šedivý, and M. Protiva (Výzkumný ústav farm. biochem., Prague). *Chem. Listy* 49, 777-8(1955); cf. *C.A.* 50, 1630*h*. —Treating *p*-$MeC_6H_4SO_2NHMe$ with BuBr according to Lukeš and Pleučil (*C.A.* 33, 983^9) gave 81% *p*-$MeC_6H_4SO_2$-*NMeBu*, b_{11} 209-12°. This compd. was hydrolyzed to 56% MeNHBu, b. 88-90°, which was transformed to *N-methylpyrrolidine* (I), b. 78-80°, in 40-8% yields according to *C.A.* 40, 571^4. I (100 g.), 135 g. $Br(CH_2)_5Br$, and 50 ml. Me_2CO mixed, cooled, and allowed to stand overnight, the solid product stirred with 100 ml. Et_2O, the quaternary salt filtered off with suction and washed with 250 ml. 1:1 Et_2O-iso-PrOH gave 200 g. *1,1'-pentamethylenebis(N-methylpyrrolidinium bromide)* (II), extremely hygroscopic crystals; *dipicrate*, m. 274° (from PhAc-EtOH). II (105 g.) in 1500 ml. H_2O was decompd. with Ag_2O (from 500 g. $AgNO_3$), the filtrate mixed with 150 g. tartaric acid, the soln. evapd. *in vacuo*, and the residue crystd. from 400 ml. EtOH and 70 ml. H_2O to give 240 g. of the acid tartrate of II, m. 213-14° (decompn.). M. Hudlický

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Synthetic analogs of the curare alkaloids. VII. Two new tubocurarine models and two bisquaternary ammonium salts. Miroslav Protiva, Miloš Borovička, Lexa Cimler, and Zdeněk Šedivý (Pharm. Biochem. Research Inst., Prague). *Chem. Listy* 50, 1088-94(1956); cf. C.A. 51, 2622d.—*1,10-Diaminocyclooctadecane* (I), obtained in 3.1-g. yield by adding 6.0 g. Na to 3.7 g. cyclooctadecane-1,10-dione dioxime in 60 ml. boiling abs. EtOH, evapg. the EtOH and extg. with Et_2O, was distd., $b_{0.4}$ 180-5°; *dipicrate* m. 238-40° (from dil. Me_2CO). I (2.0 g.), 25 ml. MeOH, 1.72 g. KOH, and 12 g. MeI was left overnight and refluxed 7 hrs. with gradual addn. of further 8 g. MeI, evapd. to dryness, extd. with hot Me_2CO, and crystd. from iso-PrOH to give 1.7 g. colorless platelets of the *dimethiodide* of *1,10-bis(dimethylamino)cyclooctadecane* (II) which did not melt below 300°. *Cyclooctadecane-1,10-diol*, obtained in 7.2-g. yield by reducing 9.0 g. cyclooctadecane-1,10-dione with 1.8 g. $LiAlH_4$ in Et_2O-C_6H_6, was recrystd. from Me_2CO, m. 120-30°, and refluxed 3 hrs. with Ac_2O to give 83% *cyclooctadecane-1,10-diol diacetate* m. 72-3° (from aq. EtOH). *p*-$Me_2N(CH_2)_2OC_6H_4CH_2CN$ (III) obtained in 15.8-g. yield by dropping an EtOH soln. of 40 g. *p*-$HOC_6H_4CH_2CN$ (IV) into EtONa prepd. from 7.0 g. Na and 100 ml. abs. EtOH and refluxing the resulting IV Na salt with 40 g. $Me_2N(CH_2)_2Cl$ 5 hrs., was extd. with $CHCl_3$ and distd., $b_{0.4}$ 135-7°; *picrate*, m. 102-2.5° (from H_2O); *HCl salt*, m. 183-7° (from EtOH-Et_2O). III (15.8 g.) in 100 ml. MeOH was satd. at 0° with NH_3 and hydrogenated

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Protiva, M., Borovička, M., Cinler L., ...

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by shaking with 3 g. Raney Ni 5 hrs. in an autoclave at 90–100° and 100 atm. to 14.1 g. oily $Me_2N(CH_2)_2OC_6H_4(CH_2)_2NH_2$ (V), b_1 120°; *dipicrate*, m. 160–70°; *N-Ac deriv.*, $b_{0.4}$ 175–7°, m. 40–2° (from ligroine). V (3.0 g.) with 12.2 g. MeI in MeOH-NaOH gave 7.9 g. $[Me_3N^+(CH_2)_2OC_6H_4(CH_2)_2N^+Me_3]2I^-$ (VI), m. 290–2° (decompn.) (from aq. EtOH). *1-Phenyl-2-(4-cyanomethylphenoxy)propan-1-one* (VII), obtained in 14-g. yield by refluxing the Na salt of 13.3 g. IV with 21.3 g. BzCHMeBr (VIII) 7 hrs. in EtOH, was extd. with Et_2O and fractionated by distn., $b_{0.4}$ 204–12°, m. 79–80.5° (from iso-PrOH). VII could not be converted to a diamine. An analogous condensation of 13.3 g. IV with 21.3 g. VIII gave as sole product $Br(CH_2)_2OEt$. II revealed a high curare activity which was qualitatively near to the effect of d-tubocurarine chloride; VI was considerably less potent. *1,4-Bis(dimethylamino)-2-(2,5-dimethoxyphenyl)butane·2MeI*, m. 238–40°, obtained in 3.5-g. yield by refluxing 8 hrs. 2.8 g. 1,4-diamino-2-(2,5-dimethoxyphenyl)butane with 21.3 g. MeI in MeOH, and *1,5-dipiperidinopentane·2MeBr*, m. 258–9° (decompn.), prepd. in 100-g. yield by refluxing 7 hrs. 212 g. N-methylpiperidine, 225 g. $Br(CH_2)_5Br$, and 500 ml. iso-PrOH, were synthesized as compds. with possible ganglioplegic activity. L. J. Urbánek

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PM MK

Borovicka, M.

CZECHOSLOVAKIA/Pharmacology and Toxicology - Muscle Relaxants V

Abs Jour : Ref Zhur - Biol., No 2, 1959, 9140

Author : Borovicka, M., Cimler, L., Protiva, M.
Inst : -
Title : Two New Patterns of the Molecular Structure of d-Tubocurarine Chlorides.

Orig Pub : Chemotherapeutika. I. Farmac. sympos., Praha, 1956, 51-52.

Abstract : No abstract.

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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic G-2
Chemistry.

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57441.

Author : Borovicka M., Protiva M.
Inst : Not given.
Title : Synthetic Antispasmodic Remedies. XVI. Derivatives of 3-Phenyllindanone and 1-Amine-3-Phenylindan.

Orig Pub: Ceskosl. farmac., 1957, 6, No 3, 129-132.

Abstract: For the purpose of investigating pharmacological properties, various substances were synthesized using 3-phenylindanone (I) as a starting material. These compounds comprised materials of the general formula (II) and methyl ether of the 3-phenylinda-

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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57441.

Abstract: non-1-glyoxinic-2 acid (III). The iodo-substitutes of II, ie IIb, IId, and IIg exhibited weak antihistamine and antispasmodic activities. A solution containing 10.5gr IIa (derived from I and $LiAlH_4$ with 75% yield, boiling point of 135-136°/0.35mm and melting point of 79-80°) in C_6H_6 is boiled for 1 hour with 4gr $NaNH_2$, after adding 8.1gr of $ClCH_2CH_2N(CH_3)_2$, is boiled for 5 additional hours. The obtained IIb yield is 71%, 165-167°/1.4 mm boiling point; iodomethylate has melting point of 185-186°. 18.5gr of II oxime (141-142° melting point) is hydrated in CH_3OH over Ni at 80-90°, and 100atm. pressure for 8 hours. The yield of IIC is is 67%, 154°/4mm and 135-140°/0.4mm boiling point.

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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57441.

Abstract: Its chlorhydrate and picrate have melting points of 224-225° and 218-220° respectively. Solution containing 1.gr NaOH, 3gr IIc, and 15gr CH_3I in 45cc CH_3OH is boiled, followed by the addition of 6.4gr of CH_3I, by evaporation (8 hours), and by precipitation in acetone 18gr of II d of 197-198.5° melting point are formed. From 2.09gr of the obtained II c and 1.06gr of C_6H_5CHO (boiling in alcohol for 4 hours), 69% yield of II e (of 100-101° melting point) is obtained. Upon hydrogenation over Ni, 85% yield of IIh (of 80-81° melting point) is obtained. Its chlorhydrate and picrate have

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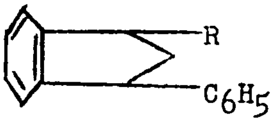
CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57441.

Abstract: melting points of 216-218° and 197-198° respectively. II g is produced anologically, from II h using C_2H_5OH. Yield is 71% and melting point is 185-186°. Dry CH_3ONA (obtained from 0.92gr of Na) is boiled for 30 minutes with 4.72gr $CH_3OCOCOONa$ in C_6H_6, to which 4.19gr of I is then added followed by boiling for 1 hour, by the decomposition with water and by the separation of III with 2% NaOH. The obtained yield of III is 55% of 214-216° melting point. General key of structure of the compounds involved is shown as follows:



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CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57441.

Abstract: a: R = OH; b: R = $OCH_2CH_2N(CH_3)_2$; c: R = NH_2;
d: R = $N(CH_3)_2I$; e: R = C_6H_5CH N; h: R = $C_6H_5CH_2NH$;
g: R = $C_6H_5CH_2N(CH_3)_2I$.
For Part XV refer to Ref Zhur-Khimiya, 1958, 14426.

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BOROVICKA, M.

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64383.

Author : Protivam, Mychajlyszynv, Novakl, Borovickam, Adlerovae, Eachv.

Inst :

Title : Synthetic Spasmolytic Agents. XVII. Certain New Esters and Amides Containing a Sulfonium Group.

Orig Pub: Ceskosl. farmac., 1957, 6, No 8, 425-431.

Abstract: To test for spasmolytic activity, sulfonium salts were extracted from the sulfides CH_3SCH_2COR (I), $CH_3SCH_2CH_2COR$ (II), $CH_3CH(SCH_3)COR$ (III), where (a) R is OC_2H_5, (b) OH, (c) Cl, (d) $OCH(C_6H_5)$. During in vivo tests, the iodo-methylates of (IId), (II) $R = (C_2H_5)_2N$, (IIe), (II), $R=C_6H_5CH_2NC_2H_5$ (IIf),

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CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64383.

as well as the iodide $[C_6H_5CH_2COOCH_2CH_2S(CH_3)_2]I$ (IV) proved effective.

(Ia), (IIIa), (Id) and (IIId) decompose under the action of CH_3I, and do not form iodo-methylates.

To a boiling solution of CH_3SNa (V) (made from 175 g. of the sulfate $H_2NC(=NH)SNa$), in .5 liters of ethanol, are added 122 g. of $ClCH_2COOC_2H_5$). Boil 2 hours, concentrate in a vacuum, add water, and recover (Ia) in ether, yield 65%, b.p. 57-62°/10 mm. In the same way there can be produced (IIIa), yielding 56% and (IIa), yielding 70%, iodo-methylate, m.p. 123°. 86 g Ia and 200 ml of 20% NaOH are boiled one hour, 120 ml of concentrated HCl are added and ex-

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CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64383.

tracted with ether 72% Ib, boiling point 108-112°/8mm. Obtained in the same way are 80% IIIb, boiling point 105-108°/8 mm, 70% IIb, boiling point 120-124/8mm. To 10.6 g of Ib 20 ml of $SOCl_2$ is added, boiled one hour, Iv is distilled, 80%, boiling point 57-60°/15 mm. Obtained analogously are 65% III, boiling point 95-100°/100 mm, 58% IIv, boiling point 77-82°/8 mm. To 8 g $(C_6H_5)_2CHOH$ in 35 ml of C_6H_6 and 30 ml of pyridine, 7 g Ic in 35 ml of C_6H_6 is added at 0° for 15 minutes, from the solution are yielded 7 g Id, boiling point 153-155°/0.4 mm. IIId, boiling point 147-149°/0.2 mm; IId, boiling point 169-172°/0.7 mm, melting point 38°, iodomethylate, melting point 107°. From 27.2 g $C_6H_5CH_2COOH$ and iso-C_3H_7MgCl by a well-known method (RZhKhim, 1957 26740) is obtained 19 g of 1-oxicyclohexylphenylacetic acid

Card : 3/6

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64383.

(VI), melting point 132-133°, and 2.5 g of meso-α, β-diphenylsuccinic acid, melting point 224-225°. During the attempt to condense Na-salt VI with $ClCH_2CH_2SCH_3$ (VII) and the processing of the mixture CH_3I, only IV is yielded. $C_6H_5CH_2COONa$ (from 6.8 g of acid) and 6 g of VII are boiled 4 hours in 60 ml of absolute, the filtrate is distilled, of the processed fraction 150-152°/15 mm (4g) CH_3I, IV is obtained melting point 98.5-99.5. 3.25 g (cyclo-C_6H_{11}) $CH(C_6H_5)COOCH_2CH_2Br$ and 1.05 g of absolute pyridine is heated 3 hours at 100-120°, the [(cyclo-C_6H_{11})-$CH(C_6H_5)$-$COOCH_2CH_2NC_5H_5$]Br obtained is triturated with ether, melting point 103-105°, is very absorbent, in a water solution yields with $NaClO_4$ [(cyclo-C_6H_{11})-CH $(C_6H_5)COOCH_2CH_2NC_5H_5$]$ClO_4$, melting point 122-123°. 16.9 g $C_6H_5NHCOCH_2Cl$ is boiled with 11g of V in 100 ml of acetone

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CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64383.

15 hours, concentrated in a vacuum, water is added and C_6H_6 extracted. 52% I, R = C_6H_5NH, melting point 79°, during processing of CH_3I yields an adduct of iodo-methlate I, R = C_6H_5NH and $(CH_3)_3SI$, melting point 130-131°. 4 g of 3-chlorophenothiazine is boiled with 3.1 g of $ClCH_2CH_2COCl$ in 50 ml of C_6H_6 4 hours, concentrated in a vacuum, 5.5 g of N-(β-chloropropionyl)-3-chlorophenothiazine is obtained, melting point 112-113°. The mixture 3.15 g of $C_6H_5N(C_2H_5)COCH_2CH_2Cl$, 1.5 g of V and 50 ml of acetone is boiled 10 hours, diluted with water and extracted with ether of II, R = $C_6H_5NC_2H_5$(IIh). From unrefined IIh and CH_3I in acetone iodo-methylate of IIh is obtained, melting point 98°. From 13 g $(C_6H_5)_2NCOCH_2CH_2Cl$ and 4.2

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CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G

Abs Jour: Ref. Zhur-Khimiya, No 19, 1958, 64383.

g of V in acetone (boiling 10 hours) 78% of IId is obtained, boiling point 168-175°/0.6 mm, melting point 63-64°, iodo-methylate, melting point 111-112.5°. Analogously from $C_6H_5CH_2N(C_6H_5)COCH_2CH_2Cl$ is obtained IIf, boiling point 190°/1.6 mm, melting point 59-60°, iodo-methylate, melting point 107-108°. In the same way from N-(β-chloropropionyl)-phenothiazine is obtained II, R = N-phenothiazine, yield 61%, boiling point 230-235°/1 mm, melting point 78°, iodo-methylate, melting point 131-132°. Report XVI, see RZhKhim, 1958, 57441.

Card : 6/6

BOROVICKA, M: HACH, V.

"Syntheses of methionine.

p. 700 (Chemie, Vol. 9, no. 5, Nov. 1957)

Monthly Index of East European Accessions (EEAI) LC,Vol. 7, No. 6, June 1958

Natural substances as medicinals—progress in the year 1955. M. Borovička and V. Hach (Novorosijská 3, Prague). *Pharmazie* 12, 65–78(1957).—A review with 288 references.

G. M. Hocking

BOROVIČKA, M.

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Distr: 4E3d

Pharmacodynamically interesting aminoalkyl derivatives of acridan and phenothiazine homologs. M. Protiva, M. Borovička, V. Hach, Z. Votava, J. Šrámková, and Z. Horáková (Forschungsinst. Pharm. and Biochem., Prague). *Experientia* 13, 291-2(1957)(in German).—Homoacridan (I) (hydrochloride, m. 188-90°) was obtained by the reduction and simultaneous hydrogenolysis of 2'-aminobenzophenone-2-carboxylic acid lactam with $LiAlH_4$. Homophenothiazine (II) (m. 115°; hydrochloride, m. 173°) was obtained by cyclizing 2'-amino-2-methoxycarbonyldiphenylsulfide (m. 85-6°; picrate, m. 167°), obtained from the corresponding nitro ester, and reducing the resulting lactam (m. 230-42°) with $LiAlH_4$. I and II were made to react with substituted aminoalkyl chlorides in the presence of $NaNH_2$ in toluene or xylene to give the following: *N*-(dimethylaminoethyl)-1-aza-2,3,5,6-dibenzocycloheptadiene (III), hydrochloride, m. 200°; *N*-(diethylaminoethyl)-1-aza-2,3,5,6-dibenzocycloheptadiene (IV), dihydrochloride, m. 184°; *N*-(piperidinoaminoethyl)-1-aza-2,3,5,6-dibenzocycloheptadiene (V), dihydrochloride, m. 209°; *N*-(dimethylaminopropyl)-1-aza-2,3,5,6-dibenzocycloheptadiene (VI), hydrochloride, m. 183°; *N*-(dimethylaminoethyl)-1-aza-4-thia-2,3,5,6-dibenzocycloheptadiene (VII), hydrochloride, m. 201°; *N*-(piperidinoaminoethyl)-1-aza-4-thia-2,3,5,6-dibenzocycloheptadiene (VIII), succinate, m. 151°; *N*-(dimethylaminopropyl)-1-aza-4-thia-2,3,5,6-dibenzocycloheptadiene (IX), hydrobromide, m. 157°. VI has antihistaminic activity 800 times as great as that of 2-(diphenylmethoxy)-*N*,*N*-dimethylethylamine-HCl (X). The antihistaminic activities of III and VII are 10 times that of X. The local anesthetic effects (infiltration) of III-IX all exceed that of procaine; V and VII being the most effective. The local anesthetic effects (surface) of III-VII all exceed that of cocaine; VIII and IV being the most effective.

D. S. Farner

CM

CZECHOSLOVAKIA/Organic Chemistry. Synthetic Organic Chemistry. G-2

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43415.

NCH_2CH_2, 63, 175/0.9, 162-164 (dihydrochloride), 3, 209-210; $CH_2CH_2N(CH_2)_5$ =cyclo, 63, 180-185/0.5, 207-209 (dihydrochloride), 0.3, 200-201; $CH_2CH_2\underline{N(CH_2)_2}$ $\underline{O(CH_2)_2}$, 62, 192-194/0.5 (MP 90-92°), forms no hydrochloride, —, 225; I, R = $CH_2CH(CH_3)N(CH_3)$, 57, 153/0.4, forms no hydrochloride, —, 207-209 (on preparation of methiodide there is formed as a by-product the methiodide of I, R = CH , MP 174-175°), picrate, MP 157-158°; $(CH_3)_2NCH_2CH_2CH_2$, 65, 180/0.4, 182-183, 800, 189-190. By boiling for 5 hours Ia with $ClCH_2CH_2COCl$ in C_6H_6 was prepared I, R = $ClCH_2CH_2CO$ yield 63%, MP 77-79°), which formed with $(C_2H_5)_2NH$ in toluene (boiling for 10 hours) the I, R = $(C_2H_5)_2NCH_2CH_2CO$ (BP 181-186°/0.35 mm), and with

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CZECHOSLOVAKIA / Organic Chemistry. Synthesis. G-2

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8246.

Author : Borovicka, Milos., Protiva, Miroslav.
Inst : Not given.
Title : Sympathic Ganglia-Blocking Substances.

Orig Pub: Chem. listy, 1957, 51, No 11, 2118-2121.

Abstract: For physiological tests were synthesized the substances $C_6H_5CR[CH_2CH_2N(CH_3)_2]_2$ (I) and $C_6H_5CR[CH_2CH_2N(C_2H_5)_2]_2$ (II) a - d, a R = CN, b $CONH_2$, c CH_2NH_2, d H) and some of their derivatives were prepared. By a described method (Blicke F. F. et al., J. Amer. Chem. Soc., 1952, 74, 1844) Ia was prepared from $C_6H_5CH_2CN$ (III) and $(CH_3)_2N\,CH_2CH_2Cl$ in the presence of $NaNH_2$, yield 87%, BP 140°/1.2 mm; dipicrate, MP 238-239° (from acetophenone-

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CZECHOSLOVAKIA / Organic Chemistry. Synthesis. G-2

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8246.

Abstract: alcohol); bis-methiodide (IV), MP 254-255°. In the same manner was prepared IIa, BP 140-142°/0.1 mm (purified by decomposition of dipicrate); dipicrate, MP 161-162° (from acetone-alcohol). On rapid addition of $(C_2H_5)_2NCH_2CH_2Cl$ to mixture of III and $NaNH_2$ in C_6H_6 there is formed as a result of a vigorous reaction, together with IIa also IId, BP 128-135°/0.6 mm; dipicrate, MP 124-126° (from acetone-alcohol); bis-methiodide (V), MP 190-192° (dried at 100°). Oily hydrochloride synthesized by addition of an excess of 10% solution of HCl-gas in ether to 10 g of Ia in ether, is dried in vacuum and heated for 20 minutes at 80-95° with 50 ml of concentrated H_2SO_4 and 1.2 ml water. Yield of Ib 53%, BP 140-165°/0.4 mm,

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CZECHOSLOVAKIA / Organic Chemistry. Synthesis. G-2

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8246.

Abstract: MP 103-104° (from benzene-petroleum ether); bis-methiodide (VI), MP 257-259° (from methyl alcohol-ether). Analogously was prepared IIb, yield 51%, MP 86-88° (from ether-petroleum ether); dipicrate, MP 183-184° (from acetophenone-alcohol): bis-methiodide (VII), MP 190-192°, softening point 161-162° (from alcohol-acetone-ether). Reduction of Ia over skeleton Ni (100°, initial pressure 105 atmospheres CH_3OH, saturated with NH_3 while cooling) gave Ic, yield 66%, BP 118-120°/0.4 mm. On crystallization of crude picrate of Ic from acetophenone-ether mixture (5:2) there is formed the dipicrate of 3-phenyl-3-(alpha-methylbenzylidenamino)-methyl-1,5-bis-dimethylamino-pentane, MP 163-164°. 2.6 g Ic, 0.8 g NaOH in 10 ml alcohol are boiled for 10 hours with 7.1 g

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CZECHOSLOVAKIA / Organic Chemistry. Synthesis. G-2

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8246.

Abstract: CH_3I, added 7.1 g CH_3I and 10 ml acetone, boiled 1 hour, and isolate 3.2 g of monohydrate of tris-methiodide of 3-phenyl-3dimethylaminoethyl-1,5-bis-dimethylamino-pentane (VIII), MP 153-154° (decomposes; CH_3OH-ether). Analogously to Ic was prepared IIc, yield 76%, BP 145-147°/0.4 mm; tripicrate, MP 187-189° (from acetophenone-alcohol). Boiling of IIc with $(CH_3CO)_2O$ in toluene (15 minutes) gives acetate of IIc, BP 180-190°/1.4 mm; dipicrate, MP 131-133° (from acetone-alcohol); bis-methiodide (IX), $2C_{24}H_{45}ON_3I_2 \cdot C_3H_6O \cdot CH_4O$ (from acetone-CH_3OH-ether), MP 143°. IV-IX show very slight ganglionic-blocking action. Communication V see RZhKhimBkh, 1958, 31557. -- Antonin Emr.

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Borovicka,

CZECHOSLOVAKIA / Organic Chemistry--Synthetic organic chemistry. G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49483

Author : Protiva, M.; Exner, O.; Borovicka, M.
Inst : Not given
Title : Antihistamine Compounds. XLIII. Derivatives of Diphenylhydramine with Polar Substituents

Orig Pub : Ceskoslov Farmac, 7, No 7, 380-385 (1958)

Abstract : Continuing their work on the synthesis of antihistamine compounds, the authors have apparently synthesized $4\text{-}HOC_6H_4CH(C_6H_5)OCH_2CH_2N(CH_3)_2$ (I) by the reaction of $4\text{-}CH_3COOC_6H_4CH(OH)C_6H_5$ (II) with $ClCH_2CH_2N(CH_3)_2$ (III). The isomer of I, $4\text{-}(CH_3)_2NCH_2CH_2OC_6H_4CH(OH)C_6H_5$ (IV) has been synthesized by the scheme: $4\text{-}HOC_6H_4COC_6H_5$ (V) $\rightarrow$ $4\text{-}(CH_3)_2NCH_2CH_2OC_6H_4COC_6H_5$ (VI) $\rightarrow$ IV. In addition, $4\text{-}NH_2C_6H_4CH(C_6H_5)OCH_2CH_2N(CH_3)_2$ (VII) has been synthesized

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CZECHOSLOVAKIA / Organic Chemistry--Synthetic organic chemistry. G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49483

by the scheme: $C_6H_5NHCOC_6H_5$ (VIII) + C_6H_5COCl (IX) → 4-$C_6H_5CONHC_6H_4COC_6H_5$ (X) → 4-$C_6H_5CONHC_6H_4CH(OH)C_6H_5$ (XI) → 4-C_6H_5CONH-$C_6H_4CH(C_6H_5)OCH_2CH_2N(CH_3)_2$ (XII) → VII. Attempts to synthesize 4-$NO_2C_6H_4CH(C_6H_5)OCH_2CH_2N(CH_3)_2$ → (XIII) proved unsuccessful: 4-$NO_2C_6H_4COC_6H_5$ (XIV) is reduced with LiAlH to 4-$NO_2C_6H_4CH(OH)C_6H_5$ (XV); however, the reaction of XV with III apparently yields 4-$C_6H_5COC_6H_4N(O)=NC_6H_4COC_6H_5$-4' (XVI) rather than XIII. Attempts to carry out the bromination of 4-$NO_2C_6H_4CH_2C_6H_5$ (XVII) (obtained by Friedel-Crafts synthesis from 4-$NO_2C_6H_4COCl$ and C_6H_6; bp 145 - 149°/0.2 mm) to obtain 4-$NO_2C_6H_4CH$-$(Br)C_6H_5$ gave XIV instead. The same result is obtained from the reaction of XV with PBr_3. 29.7 gms V in 50 ml abs NC_5H_5 are treated with 15 gms CH_3COCl

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CZECHOSLOVAKIA / Organic Chemistry--Synthetic organic chemistry. G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49483

over 15 min (the temperature rises from 60 to 65°), the solution is stirred while cooling, 200 ml ice water are added, the solution is acidified with 80 ml conc HCl and $4\text{-}CH_3COOC_6H_4\text{-}COC_6H_5$ (XVIII) is isolated, yield 93%, mp 81° (corrected; from alc). 26.5 gms XVIII in 200 ml CH_3OH are hydrogenated over 5 gms Raney Ni (20°, 90 atm, 1.5 hrs, 2.8 liters H_2), and II is isolated from the filtrate, yield 82%, bp 155 - 160°/0.2 mm. 7.3 gms II, 3.8 gms III, and 2 gms of 70% $NaNH_2$ solution in 40 ml abs C_6H_6 are refluxed for 7 hrs, 100 gms ice and 15 ml conc HCl are added on cooling, the solution is extracted with ether, the aqueous layer is made alkaline with 40% NaOH and extracted with ether to give I, 44% yield, bp 163 - 165°/0.4 mm, picrate (PC) mp 150° (corrected; from alc). 17 gms V are added to a

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solution of 1.95 gms Na in 50 ml abs alc, the solution obtained is refluxed for 1 hr, 18 gms III are added on cooling, the solution is heated for 6 hrs at about 100°, the filtrate is evaporated under vacuum, the residue is made alkaline with 40% NaOH and extracted with ether to give 17% VI, bp 170 - 172°/0.3 mm, PC mp 154 - 155° (from aqueous alc). 2 gms VI in 50 ml abs ether at about 20° are treated with 0.57 gm $LiAlH_4$ in 50 ml ether (added dropwise), the solution is stirred for 1 hr at about 20°, refluxed for 1 hr, decomposed by adding 10 ml water and 10 ml of 40% NaOH; the ether layer yields 41% IV, mp 83 - 84° (from petroleum ether), PC mp 117 - 118° (from aqueous alc). 100 gms VIII and 70 gms IX are heated to 180°, 50 gms of anhydrous $ZnCl_2$ are added over 10 min, and the melt is

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CZECHOSLOVAKIA / Organic Chemistry--Synthetic organic chemistry. G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49483

immediately poured into cold water; the substance which separates is dissolved in 750 ml alc and 700 ml water to give 34% X, mp 151° (corrected; from alc). 34 gms X in 1.5 liter alc are reduced with amalgam (7 gms Na and 250 gms Hg) at 15°, the solution is left to stand 48 hrs at about 20°, 3 liters water are added to the filtrate, and XI is isolated, yield 82%, mp 157° (corrected; from ethyl acetate). 9.1 gms XI, 3.8 gms III, and 2 gms 70% $NaNH_2$ in 60 ml C_6H_6 are refluxed for 7 hrs, 100 gms ice and 15 ml conc HCl are added on cooling, the solution is washed [sic] with ether, the aqueous layer is made alkaline with 40% NaOH, extracted with ether, the solvent is removed, and 9.4 gms of the residue are converted to the PC of XII, mp 170° (corrected; from acetone-ether); the PC

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CZECHOSLOVAKIA / Organic Chemistry--Synthetic organic chemistry. G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49483

is hydrolyzed with 15 ml (1 : 1) HCl, the $(NO_2)_3$-C_6H_2OH is removed with $C_6H_5NO_2$ and ether, the aqueous layer is made alkaline, and extracted with ether to give XII (0.9 gms). 4.4 gms of crude XII, 6 ml water, and 0.9 gm NaOH are refluxed for 6 hrs, the solution is evaporated under vacuum, mixed with 30 ml water and 30 ml ether, the ether layer is evaporated, the residue is dissolved in 40 ml N [?] HCl, the resulting solution is washed [sic] with ether, made alkaline with 40% NaOH, and extracted with ether to give 0.65 gm VII, bp 220 - 230°/0.3 mm. 14 gms XIV in 50 ml abs tetrahydrofuran (XIX) are treated over 30 min at $\leq 5°$ with a titrated [standardized?] solution of 0.63 gm $LiAlH_4$ in 90 ml XIX, the solution is stirred for an

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CZECHOSLOVAKIA / Organic Chemistry--Synthetic organic chemistry. G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49483

additional 30 min, hydrolyzed with 200 ml water and 30 ml (1 : 1) HCl, evaporated under vacuum, and the residue is extracted with ether to give 84% yield of XV, mp 74° (from C_6H_{14}). 5.7 gms XV, 3.2 gms III, and 1.6 gms 70% $NaNH_2$ in 30 ml C_6H_6 are refluxed for 7 hrs, the solution on cooling is hydrolyzed with 50 ml water, diluted with 100 ml C_6H_6 to given 61% XVI, mp 205° (corrected; from dioxane). 21.3 gms XVII at 160° are treated over 30 min with 18.7 gms Br_2, the solution is heated for 3 hrs at 160°, and diluted with 50 ml C_6H_6 to give XIV, bp 170 - 190°/1 mm. 5.9 gms SV and 4.5 gms PBr_3 are mixed at 0°, the solution is allowed to stand about 12 hrs at about 20°, followed by 2 hrs at about 100°, hydrolyzed with 50 ml water and extracted with 50 ml C_6H_6 giving 6.8 gms XIV, mp

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CZECHOSLOVAKIA / Organic Chemistry--Synthetic organic chemistry. G-2

Abs Jour : Ref Zhur - Khimiya, No 14, 1959, No. 49483

138° (corrected; from benzene-C_6H_{14}). For Communication XLII see RZhKhim, No 23, 1958, 77702. -- V. Skorodumov

Card 8/8

GDR/Pharmacology and Toxicology - General Problems. V-1

Abs Jour : Ref Zhur - Biol., No 21, 1958, 98384

Author : Borovicka, M., Hach, V.
Inst : -
Title : Natural Substances as Medicinal Preparations, Described in 1956.

Orig Pub : Pharmazie, 1958, 13, No 2, 65-72.

Abstract : No abstract.

Card 1/1

CZECHOSLOVAKIA / Organic Chemistry. Natural Compounds and Their Synthetic Analogs. G-3

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77835.

Author : Pliml, J., Borovicka, M., and Protiva, M. and Protiva, M., Borovicka, B., Cimler, L., and Sedivy, Z.
Inst : Not given.
Title : Synthetic Analogs of the Curare Alkaloid. VI. Some Notes on the Preparation of Tris-2-diethylaminoethyl) Ether of Pyrogallol. VII. Two New Models for Tubocurare and Two Bis-quaternary Ammonium Salts.

Orig Pub: Soll Czech Chem Commun, 23, No 4, 704-711, 712-719 (1958) (in German with a Russian summary).

Abstract: See RZhKhim, 1957, 51218; 1958, 4777.

Card 1/1

CZECHOSLOVAKIS / Organic Chemistry. Synthesis. G

Abs Jour: Ref Zhur-Khimiya, No 7, 1959, 23411

Author : Borovicka, M.; Protiva, M.
Inst : Not given
Title : Antihistaminic Substances. XLI. Derivatives of 1-Aza-2,3-5,6-Dibenzocycloheptadiene (Homoacridan).

Orig Pub: Collect. czechosl. chem. commun., 1958, 23, No 7, 1330-1335.

Abstract: See RZhKhim, 1958, 43415.

Card 1/1

G

Country : CZECHOSLOVAKIA
Category: Organic Chemistry. Organic Synthesis

Abs Jour: RZhKhim., No 17, 1959, No. 60821

Author : Borovicka, M.; Protiva, M.
Inst : -
Title : Substances that Block Sympathetic Ganglia. VI. Derivatives of 3-Phenyl-1, 5-Diaminopentane

Orig Pub: Collect. czechosl. chem. communs, 1959, 24, No 1, 31-35

Abstract: See Ref. Zhur-Khimiya, 1959, No 3, 8246

Card : 1/1

H-22

COUNTRY : Czechoslovakia
CATEGORY :

ABS. JOUR. : RZKhim., No. 16 1959, No. 53444

AUTHOR : Borovicka, M.
INST. : Not given
TITLE : The Underground Gasification of Coal

ORIG. PUB. : Paliva, 39, No 2, 52-53 (1959)

ABSTRACT : The author reviews work on the underground gasification of coal done in Belgium, the Polish Peoples Republic, and USA, Morocco, Italy, England, the USSR, and in Czechoslovakia.

CARD: 1/1

BOROVICKA, M.; SEDIVY, Z.; PROTIVA, M.

Synthetic experiments in the group of estrogenic hormones. XXI. Derivatives of 3,4-dimethyl-3-carboxycyclohexanones. Coll Cz Chem 26 no.3:730-739 Mr '61. (EEAI 10:9)

1. Forschungsinstitut fur Pharmazie und Biochemie, Prag.

(Cyclohexanone) (Estrogenic hormones) (Methyl group (Carboxyl group)

NOVAK, L.; BOROVICKA, M.; PROTIVA, M.

Synthetic experiments in the group of estrogenic hormones. Part 24: Derivates of 3-methyl-6-(p-methoxyphenyl)-3-carboxycyclohexanones. Coll Cz Chem 27 no.5:1261-1272 My '62.

1. Forschungsinstitut fur Pharmazie und Biochemie, Prag.

BOROVICZENY, K.G.

EXCERPTA MEDICA Sec 7 Vol.12/7 Pediatrics July 58

1803. NORMOBLASTS IN THE BLOOD OF THE NEWBORN - Normoblasten im Blutbild des Neugeborenen - Boroviczény K.G. and Balló T. Lab. und Kinderabt., Städt. Krankenh. Árpád, Budapest - WIEN. Z. INN. MED. 1957, 38/5 (196-198) Graphs 1 Tables 3

In 652 normal newborn infants blood counts were made. In 502 samples of blood from the umbilical vein the normoblasts were counted, in 737 instances capillary blood was used. At birth 3.2% of normoblasts to 100 leucocytes were present. Ten hours after birth one half of this figure is found. After 4 days usually no normoblasts were discovered.

Drukker - Amersfoort

BOROVICZENY, K. Gyorgy, Dr.; LIKITS, Edit, Dr.; BENCZUR, Gyula, Dr.

The case of the macroglobulinemia of Waldenström and Waldenström's hyperglobulinemica purpura. Orv. hetil. 99 no.7:237-240 16 Feb 58.

1. A Fovarosi Arpad Kozkorhaz (igazgato: Lorand Sandor dr. kandidatus) Laboratoriumanak (Foorvos: Szirmai Endre dr.) Belosztalyanak (foorvos: Farkass Jeno dr.) es a Fovarosi XI. keruleti Rendelointezet (igazgato: Kiralyhegyi Robert dr.) kozlemenye.

(SERUM GLOBULIN
macroglobulinemia of Waldenstrom, case report (Hun))
(PURPURA, NONTHROMBOPENIC, case reports
hyperglobulinemic (Hun))

BOROVIKOV, A.M.

3

AID Nr. 981-3 3 June

CONFERENCE AT CENTRAL AEROLOGICAL OBSERVATORY (USSR)

Meteorologiya i gidrologiya, no. 3, 1963, 60. S/050/63/000/004/002/002

The following are among the reports presented at a recent session of the Scientific Council of the Central Aerological Observatory: 1) N. Z. Pinus -- an experimental investigation of the wind field at altitudes of 7 to 11 km; certain peculiarities of the mesostructure of the wind field, and the statistical characteristics of horizontal and veritical wind fluctuations in the jet stream zone in different regions of the European USSR and Siberia; 2) S. M. Shmeter -- the process of cumulonimbus cloud development and a proposed model of the structure of the fields of meteorological elements near the upper third of such clouds at different stages of development; 3) V. D. Reshetov -- the use of hydrodynamic equations for determining the interdependence of ageostrophic, nonstatic, and nonstationary atmospheric motions and a more

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3.

AID Nr. 981-3 3 June

CONFERENCE AT CENTRAL AEROLOGICAL [Cont'd] S/050/63/000/004/002/002

accurate form proposed for writing such equations; 4) I. F. Kvaratskheliya -- conditions for the formation of sharp changes of vertical wind shear in the upper half of the troposphere over the Transcaucasus; 5) A. I. Ivanovskiy and A. I. Repnev -- the hydrodynamics of the upper atmosphere, taking into account the chemical reactions occurring under solar influence; 6) V. V. Kostarev, A. M. Borovikov, and A. B. Shupyatskiy -- certain radar criteria for identifying the hail content of clouds and criteria for evaluating the effect of cloud modification; and 7) A. G. Gorelik -- certain results of radar investigations of the wind field at altitudes of 50 to 700 m. [ET]

Card 2/2

BOROVIK, B.

Deserved confidence. Mast.ugl. 9 no.2:17 F '60. (MIRA 13:7)
(Trade unions)
(Donets Basin--Coal mines and mining)

TOMASHEVICH, V.A.; red.; BAZYLEV, T.A., red.; BOROVIK, F.V., red.;
YANCHENKO, S.Ye., red.; GRISHANOVICH, P.U., red.; SAVITSKIY,
F.I., red.; BELEN'KAYA, I.Ye., tekhred.

[Collected articles on economics] Sbornik statei po politekonomii.
Minsk, Izd-vo Belgosuniv. im. V.I.Lenina, 1959. 170 p.
(MIRA 13:4)

1. Minsk. Universitet.
(White Russia--Economic conditions)

RAZUMENKO, Aleksey Venediktovich; AZARNOV, Iosif Davidovich; BOROVIK,
F.V., kand.ekonom.nauk, nauchnyy red.; SHEVLAK, V.A., red.;
VOROTYNSKAYA, S.A., tekhred.

[Commerce in the White Russian S.S.R. during the seven-year plan] Torgovlia v Belorusskoi SSR v semiletke. Minsk, 1960. 23 p. (Obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii Belorusskoi SSR, no.3). (MIRA 13:6)

(White Russia--Commerce)

BOROVIK, G.

Cradle. Starsh.-serzh. no.2:16 F '61. (MIRA 14:7)
(Cuba--Politics and government)

BOROVIK, G.A.; FEDORENKO, N.T., redaktor; RAZGYLYAYEVA, N.G , tekhnicheskiy redaktor.

[Hundred days in China] Sto dnei v Kitae. Fotografii Dm.Bal'termantsa. Moskva, Izd-vo "Pravda," 1955. 159 p. (MLRA 10:6)

(China--Description and travel)

BOROVIK, Genrikh Aviezerovich; KRUZHKOV, N., redaktor

[Far, far away; Vietnam notes] Daleko-daleko; V'etnamskie zapiski. Moskva, Izd-vo "Pravda," 1956. 47 p. (Biblioteka "Ogonek," no.45)
(Vietnam, North--Description and travel)

BOROVIK, Genrikh Aviezerovich; VADEYEV, O., red.; DANILINA, A., tekhn.red.

[Report on the new Burma] Reportazh iz novoi Birmy. Moskva, Gos. izd-vo polit. lit-ry, 1958. 76 p. (MIRA 11:5)
(Burma--Description and travel)

BOROVIK, G.K., inzhener; VOLKOV, L.Ye., inzhener.

Some operating characteristics of cyclone cleaners. Bum.prom. 29 no.11:19-22 N '54. (MLRA 8:1)

1. Donetskaya bumazhnaya fabrika (for Borovik). 2. NIIBUMMASH (for Volkov).
(Paper-making machinery)

BASMANOV, V.A.; BOROVIK, I.P.; GUSEV, S.G.; DOKUCHAYEV, M.M.; KUKUNOV, I.M.; PETROV, S.P.; DORONICHEVA, L.A., nauchnyy red.; FEDOROVA, T.N., red.izd-va; GILENSON, P.G., tekhn.red.; RUDAKOVA, N.I., tekhn.red.

[Opencast mining and blasting operations] Otkrytye gornye i vzryvnye raboty. Pod red. I.M.Kukunova. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1959. 335 p. (MIRA 13:4)

(Strip mining) (Blasting)

BOROVIK, L.I., inzh.; GRISHKO, A.G., inzh.; PIMENOV, A.F., inzh.

Effect of the finishing roll surface on the quality of sheet iron. Stal' 20 no.8:726-728 Ag '60.
(MIRA 13:7)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Rolls(Iron mills)) (Surfaces (Technology))

S/133/61/000/002/005/014
A054/A033

AUTHORS: Kuprin, M.I., Candidate of Technical Sciences, Borovik, L.I., Engineer, and Pimenov, A.F., Engineer

TITLE: Improving the Operation of the Stretching Device of Double Stand Dressing Mills

PERIODICAL: Stal', 1961, No. 2, pp. 139-142

TEXT: The stretching of the strip during its passing through the dressing mill ensures its uniform and smooth processing. It is possible to decrease the pressure of the metal on the roll, which, if too high, would cause deformation of the rolls and moreover affects the deformation in the roll gap. By modifying the tension, stretching of the strip can be raised from 0.3 to 5%. Tension also contributes toward the prevention of warping of the strip. Therefore, a high tension is required, only limited by the yield point, because, when the tension value exceeds the latter, an uncontrolled free extension of the strip takes place and flow lines and longitudinal warping result. When determining the tension values of a strip, it must be considered

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that not the same amount of tension is required during the passing of the strip through the dressing mill. On the path from the de-coiling device to the first working stand the strip - sometimes in 40% of its width - displays foldings or warpings, therefore, the tension applied calculated for the cross-section surface of the strip, should not exceed 0.6 σ_s (10-11 kg/mm^2). Between the two working stands and also between the second working stand and the outgoing stretching device warping decreases considerably, but is not eliminated entirely. In this sector tension should not exceed 0.8 σ_s, whereas between the outgoing stretching device and the coiling drum it should be 0.15 ÷ 0.2 σ_s in order to ensure a close coiling. If the specific tension at the output of the second stand is calculated to be

$$q_1 = (0.6 \div 0.8)\,\sigma_s \qquad (1)$$

and the tension between outgoing stretching device and coiling drum is

$$q_3 = (0.15 \div 0.20)\,\sigma_s \qquad (2)$$

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Improving the Operation of the Stretching Device of Double Stand Dressing Mills

the rational proportion between these two values will be

$$\theta = \frac{q_1}{q_3} = 4 \qquad (3)$$

However, further calculations are still required, because q_1 and q_3 must ensure the strip from slipping on the rolls in the stretching device and this can be obtained by considering the following conditions:

$$\frac{Q'}{Q''} = e^{\mu\alpha} \qquad (4)$$

where: Q' - higher tension; Q'' - lower tension; e - the base of hyperbolic logarithms; μ - coefficient of friction between cylinder surface and strip; α - angle of wrap, in radians. With regard to the winding of the strip on the upper and lower rolls of the stretching device, the following relations have also to be considered:

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$$\frac{Q_1}{Q_2} = e^{\mu\alpha_1} \ (5); \quad \frac{Q_2}{Q_3} = e^{\mu\alpha_2} \ (6); \quad \frac{Q_1}{Q_3} = e^{\mu\alpha(\alpha_1 + \alpha_2)} \quad (7),$$

where Q_1 - the total tension between the 2nd stand and upper stretching roll, Q_2 - idem, between the lower stretching roll and the upper stretching roll; Q_3 - idem, between the lower stretching roll and the coiling device, α_1 and α_2 - angles of wrap for the upper and lower stretching rolls, respectively. The graphical dependence of these relations on the angle of wrap are plotted in Fig. 2 for $\mu = 0.1-0.6$. As the angles of wrap are practically equal for both the upper and lower stretching rolls, the following optimum relation can be established between the three tension values, with the aid of (5) and (6):

$$\frac{Q_2}{Q_3} = \frac{Q_1}{Q_2} \quad \text{or} \quad Q_2 = \sqrt{Q_1 Q_3} \qquad (8)$$

The force applied on the periphery of the upper roll, S_1 and the correspond-

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ing force for the lower roll, S_2, are determined by the tension values:

$$S_1 = Q_1 - Q_2; \quad S_2 = Q_2 - Q_3 \qquad (9)$$

and, assuming an optimum relation between these values, they are:

$$S_1 = Q_1 - \sqrt{Q_1 Q_3}\ ; \quad S_2 = \sqrt{Q_1 Q_3} - Q_3 \qquad (10)$$

As $\frac{Q_1}{Q_3} = \theta$, the optimum relation between the peripheral forces of stretching rolls, and consequently, the relation of the driving moments on the axis of each roll, M_1 and M_2 will be:

$$\frac{S_1}{S_2} = \frac{M_1}{M_2} = \frac{Q_1 - \sqrt{Q_1 Q_3}}{\sqrt{Q_1 Q_3} - Q_3} = \frac{\theta - \sqrt{\theta}}{\sqrt{\theta} - 1} = \sqrt{\theta} \qquad (11)$$

Fig.3 represents the dependence of the limit relation $\frac{S_1}{Q_3}$, $\frac{S_2}{Q_3}$, $\frac{Q_1}{Q_3}$ on μ (calculated for $\alpha_1 = \alpha_2 = 160°$).

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$\frac{S_1}{Q_3}$ and $\frac{S_2}{Q_3}$ are plotted by means of continuous lines at the optimum $\frac{S_1}{S_2}$ relation, while with dotted line for $\frac{S_1}{S_2} = 1.3$. It can be seen that only the continuous lines ensure the prevention of slip. The problem of scratches appearing on the strip surface due to its slipping when tensions are too high at the outgoing side, and too low in the stretching-coiling machine, were studied experimentally, by registering the electro-energetic parameters of the coiling drum drive and those of the rollers of the outgoing stretching machine. It was found that slips occurred when rolling about 1000 tons of sheets on the stand; simultaneously scratches could also be observed and their number increased with the operational time of the mill. This must be attributed to a smoothing of the surface roughness resulting in the decrease of the frictional coefficient. In order to prevent scratch formation, the stretching rolls were shot blasted, thus obtaining a roughness of 3 micron, while the

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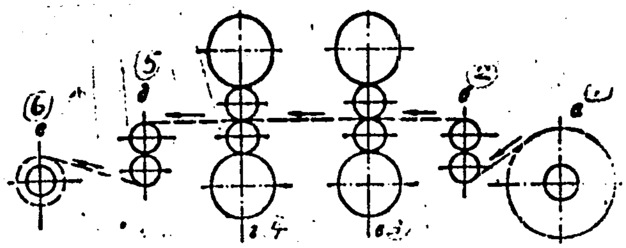
friction coefficient value increased to 0.61 as compared with a 0.27 coefficient for polished rolls. There are 3 figures.

ASSOCIATION: Magnitogorskiy gorno-metallurgicheskiy institut (Magnitogorsk Metallurgical Institute) and MMK

Figure 1:

Layout of the Double Stand Dressing Mill
1 - uncoiling device; 2 - first stretching device; 3 - first working stand; 4 - idem, second; 5 - outgoing stretching device; 6 - coiling-up device



Card 7/7

BOYARSHINOV, M.I.; BOROVIK, L.I.

Roll loading limit on four-high cold rolling mill stands. Izv. vys.ucheb.zav.; chern.met. 5 no.11:121-127 '62. (MIRA 15:12)

1. Magnitogorskiy gornometallurgicheskiy institut.
(Rolling mills)

BOROVIK, L.I.

Efficient grooving of rolls for four-high cold rolling mills.
Trudy LPI no.222:173-180 '63. (MIRA 16:7)
(Rolls (Iron mills))

BOROVIK, L.I.; PEDOS, I.F.; PIMENOV, A.F.; SHAPOVALOV, P.P.

Dependence of the sheet profile on the roll grooving. Metallurg 9 no.7:28-29 Jl '64. (MIRA 17:8)

1. Novolipetskiy metallurgicheskiy zavod.

Borovik, L. Ya.

PRATT, Wallace Everett; GOOD, D.; BOROVIK, L.Ya.[translator]; MIKHAYLOVA,V.P., [translator]; VOL'SKIY,V.V.,red.; LEVINSON,V.G.,red.geolog.chasti.

[Geography of petroleum] Geografiya nefti. Sokrashchennyi perevod s angliyskogo L.Ya.Borovika i V.P.Mikhaylova. Red. i predisl. V.V.Vol'skogo. Red.geologicheskoy chasti V.G.Levinsona. Moskva, Izd-vo inostrannoy lit-ry, 1954. 288 p. (MIRA 11:1)

(Petroleum)

BOROVIK, M.G.

BOROVIK, M.G.; SOLOMON, L.S.; SIMONOV, G.T.; EDEL'SON, I.S.

Use of feldspar sand in foundry practice. Lit.proizv. no.9: 32-3 of cover S '57. (MIRA 10:10)
(Sand, Foundry) (Feldspar)

BOROVIK, M.G.; SOLOMON, L.S.

Sand reclaiming equipment in the hydroblast cleaning process. Lit. proizv. no.10:17-21 O '60. (MIRA 13:10)
(Foundries—Equipment and supplies)

S/128/60/000/010/009/016/XX
A033/A133

AUTHORS: Borovik, M. G., and Solomon, L. S.

TITLE: Regenerative installations for the hydraulic cleaning of castings

PERIODICAL: Liteynoye proizvodstvo, no. 10, 1960, 17 - 21

TEXT: It is emphasized that one of the essential elements of the hydraulic cleaning of castings is the regeneration of the sludge forming in the hydraulic chamber. The authors remark, however, that the hydraulic regeneration installations designed and developed hitherto do not consider the specific conditions and requirements of foundry production, but are based on the ore concentration practice. Also the data on the composition of the initial, intermediate and final products are insufficient. Therefore an investigation of the regeneration installations of the Giprostanok and Giprotyazhmash Institutes has been carried out by NIILITMASh. The number of tests carried out in the course of a fortnight amounted to 30 - 40. The efficiency of the installations was determined by operation time studies; if this was not possible it was calculated indirectly by the amount of

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Regenerative installations for the...

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cleaned castings during a fixed time interval, by the consumption of core mixture per ton of casting and by other factors. The characteristics of the classifier operation include data on the quantitative distribution of water and solid substances, i.e. the solid-to-liquid ratio. The authors present a detailed description and analysis of the various regeneration installations tested, describe the operation and characteristic features of single units and point out that, according to time study data, the machine time of hydraulic cleaning chambers varies between 34.0 and 62.5%, while the auxiliary time amounts to 20 - 37.1%. If the core mixture consumption is 0.55 - 0.65 tons per ton of casting, the average solid:liquid ratio of the sludge to be regenerated should not be lower than 1:8 - 1:10. If pumps of 150 - 200 atm pressure are used instead of 90 - 100 atm, this ratio should be 1:15 or 1:20. The authors prove the superiority of hydraulic elevators for sludge transportation, enumerating the advantages of this system. They comment upon classifiers and centrifuges used in hydraulic regeneration plants and compare the efficiency and economic effect of the installations operating at various Soviet plants. There are 4 figures and 7 tables.

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SOLOMON, L.S.; BOROVIK, M.G.

Letter to the editors. Lit.proizv. no.3:48 Mr '62. (MIRA 15:3)
(Foundries--Equipment and supplies)

BOROVIK, M.G.; MYASIN, N.I.; SOLOMON, L.S.; SHPEKTOR, A.A.

Obtaining pure dust-like molding materials in a jet mill. Lit. proizv.
no.5:16-17 My '62. (MIRA 16:3)
(Sand, Foundry--Additives) (Crushing machinery)

BOROVIK, M.G.; SOLOMON, L.S.; SHPEKTOR, A.A.

Analysis of the economic efficiency of wet reclamation of sand from used foundry mixtures. Lit. proizv. no.12:20-22 D '64. (MIRA 18:3)

PSHENNIKOV, K.V.; BOROVIK, N.S.

Some characteristics of the formation of an epicentral zone of aftershocks. Geol. i geofiz. no.3:128-131 '65.

(MIRA 18:6)

1. Institut zemnoy kory Sibirskogo otdeleniya AN SSSR, Irkutsk.

L 20468-66 EWT(1)/EWA(h) GW SOURCE CODE: UR/0210/65/000/009/0127/0130

ACC NR: AP6012053

AUTHOR: Borovik, N. S.; Pshennikov, K. V.

ORG: Institute of the Earth's Crust, Siberian Department, AN SSSR, Irkutsk (Institut zemnoy kory Sibirskogo otdeleniya AN SSSR)

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B

TITLE: Comparison of epicentral zones of aftershocks with the principal relief elements and stresses at the foci of their main shocks

SOURCE: Geologiya i geofizika, no. 9, 1965, 127-130

TOPIC TAGS: earthquake, tectonics, shock wave

ABSTRACT: A study was made of the epicentral zones of aftershocks of a number of strong earthquakes in different parts of the world as published by foreign and Soviet authors. The epicenters of aftershocks on the earth's surface usually form an elongated region. In most cases the longer axis of this region is oriented parallel to the principal relief elements, such as the axis of a mountain system or a tectonic depression, the sea coast or chains of islands. In most cases the epicenter of the principal earthquake is situated on the longer axis of the epicentral zone of the aftershocks, along its edge, although in some cases at the center of the zone. If it is assumed that the field of stresses forming the relief and the field of stresses causing earthquakes are the same, the direction of the horizontal component of the null vector should coin-

UDC: 550.34+550.834

Card 1/2

ACC NR: AP6012053

cide with the strike of the orogenic lines and this situation apparently actually is observed. As shown by the table and figure accompanying the text, the orientation of the larger axes of the epicentral zones of aftershocks of a number of earthquakes and the horizontal components of the null vectors, determined for the foci of the main shocks, approximately coincide. With the possibility of errors taken into account, the agreement of these directions is good. There is a probable relationship between these earthquake characteristics which can give new data for judging the mechanical processes occurring at the earthquake focus. Orig. art. has: 1 figure and 1 table. [JPRS]

SUB CODE: 08, 20 / SUBM DATE: 15Feb65 / ORIG REF: 010 / OTH REF: 007

Card 2/2

KULESHOV, P.Ya.; MEZENTSEV, I.Ya.; BOROVIK, P.A.

Struggling for a high title. Koks i khim. no.5:3-5 '63. (MIRA 16:5)

1. Direktor Zaporozhskogo koksokhimicheskogo zavoda (for Kuleshov). 2. Sekretar' partiynogo komiteta Zaporozhskogo koksokhimicheskogo zavoda (for Kuleshov). 3. Predsedatel' zavodskogo komiteta Zaporozhskogo koksokhimicheskogo zavoda (for Borovik).

(Zaporozh'ye—Coke industry) (Socialist competition)

M-7

USSR/Cultivated Plants - Technical, Oleaginous, Sachariferous.

Abs Jour : Ref Zhur - Biol., No 9, 1958, 39428

Author : Borovik, R.V.

Inst : Odessa University.

Title : Introduction of Jute Crop on Irrigated Lands in the Southern Ukraine.

Orig Pub : V pomoshch s. kh. i rybovodstvu, vyp. 1, Odessa, 1956, 11-14.

Abstract : Experimental sowings of long-fibered jute Corchorus olito-
rius L, conducted by the Botanical garden of the Odessa
university in 1950-1955, showed the possibility of obtai-
ning stalks, both in years with favorable and unfavorable
temperature for a high yield of green stuff. The average
yield of stalks for 5 years was over 80 cwt/ha, and of
fiber - 15 cwt/ha. The height of stalks was over 2 m.

Card 1/2

USSR/Cultivated Plants. Technical Plants. Oil and Sugar Bearing Plants. M

Abs Jour : Ref Zhur-Biol., No 15, 1958, 63285

Author : Borovik, R. V.
Inst : Odessa University.
Title : Introducing New Fiber Crops into the Botanical Garden of Odessa State University.

Orig Pub : Nauchn. yezhegodnik. Odessk. un-t, 1956, Odessa, 1957, 296-297

Abstract : It was demonstrated that it is possible to cultivate successfully long-fruit jute (Corchorus olitorius L.) for fiber on irrigated southern chernozems [black soil] and on dark chestnut soils. Under production conditions, the stalk yields averaged 40-50 centners/hec-

Card : 1/2