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Anesthetic substances in the naphthalene series. V. Esters and alkylaminoalkylamides of 5-amino-1-naphthaleneacrylic acid. S. I. Sergievskaya and K. V. Levshina (All-Union Chem.-Pharm. Research Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 1030–42(1950); cf. C.A. 39, 1158⁹.—Gradual addn. of 10 g. 1-$C_{10}H_7CHO$ to 50 ml. HNO_3 (d. 1.47) at −5° to −0° and stirring 30 min. until room temp. was reached gave, upon filtration, 25% *5-nitro-1-naphthaldehyde* (I), m. 136–7° (from pyridine); ddn. of the mother liquor with ice gave 17.8% *8-nitro isomer*, m. 123–4° (from EtOAc); yields of 20% and 22%, resp., are obtained when the entire mixt. is quenched with ice and the mixt. recrystd. from pyridine. Heating 4 g. I, 4 g. malonic acid, and 10 ml. AcOH 12 hrs. at 85–90° gave 3.9 g. (*5-nitro-1-naphthylmethylene*)*malonic acid*, m. 250–2° (from 70% AcOH). Heating this 4 hrs. to 200° gave a 70% yield of *5-nitro-1-naphthaleneacrylic acid* (II), m. 257–8° (from EtOH), which is generally poorly sol.; it is also obtained by refluxing I and $CH_2(CO_2H)_2$ with pyridine, or by the Perkin reaction with Ac_2O-NaOAc in 6 hrs. at 137–40°. II warmed with $SOCl_2$ yields the *chloride* (III), m. 132–3.5° (from C_6H_6). Stirring III with concd. NH_4OH at room temp. yields the *amide*, m. 227–8.5° (from EtOH). II heated with MeOH in the presence of H_2SO_4 8 hrs. gave the *Me ester*, m. 120–1° (from MeOH); EtOH similarly gives the *Et ester*, m. 104–5° (from EtOH). Treatment of II with KOH in EtOH, addn. of $Cl(CH_2)_3Br$, and refluxing 7 hrs. gave the *3-chloropropyl ester*, m. 82.5–4.0° (from EtOH). Heating III with cyclohexanol in C_6H_6 3 hrs. gave the *cyclohexyl ester*, m. 85.5–6.5° (from EtOH). Stirring the Et ester (1.3 g.) in 50 ml. EtOH at 57–60° with 0.2 ml. concd. HCl and 1 g. Fe filings added over 1 hr., heating 6 hrs., and treating the crude product with Ac_2O gave *Et 5-acetamido-1-naphthaleneacrylate*, m. 171.5–2.0° (from EtOH). Refluxing 5 g. II 5 hrs. with 1.1 g. $Me_2NCH_2CH_2OH$ in C_6H_6 gave the *dimethylaminoethyl ester*, m. 61° (from abs. EtOH) (*HCl salt*, m. 198° (from EtOH)); this reduced with Fe-HCl in EtOH as above gave *2-dimethylaminoethyl 5-amino-1-naphthaleneacrylate-HCl*, m. 194–4.5° (from EtOH), which hydrolyzes on standing in dil. aq. solns. The *2-diethylaminoethyl ester*, m. 193–194° (from EtOH), was prepd. similarly from the intermediate *nitro analog*, m. 199–200° (from EtOH). Treatment of II with KOH in EtOH and heating the resulting K salt with $Et_2N(CH_2)_3Cl$ 4 hrs. at 80–5° gave *3-diethylaminopropyl 5-nitro-1-naphthaleneacrylate-HCl*, m. 214.5–16° (from 98% EtOH), reduced by Fe-HCl in EtOH to the *5-amino analog*, m. 212–12.5° (from EtOH). III in C_6H_6 and $Me_2NCH_2CH_2CHMeNH_2$ warmed 4 hrs. on a steam bath gave the corresponding *N-(3-dimethylamino-1-methylpropyl)amide*, m. 144–5° (from EtOH), converted by Fe-HCl in EtOH to the *5-amino analog*, isolated as the *citrate (monohydrate)*, m. 126–8° (from EtOH-Et_2O). Similarly, III gave the *N-(4-diethylamino-1-methylbutyl)amide*, m. 120–1°, converted to the corresponding *5-amino deriv.*, isolated as the *citrate (monohydrate)*, m. 133–5° (from EtOH-Et_2O). Hydrogenation of 5,1-$O_2NC_{10}H_6CH{:}CHCO_2CH_2CH_2NEt_2$-HCl over Raney Ni in EtOH gave the *corresponding ester of the 5-amino acid*, isolated as the *HCl salt*, m. 159.5–60° (from abs. EtOH). None of the amides gave complete anesthesia (rabbit cornea test), while the dimethylamino- and diethylaminoethyl esters of the 5-amino acid had *weak anesthetic properties* but caused tear formation and hyperemia; the diethylaminopropyl ester had somewhat better properties. G. M. K.

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Synthesis and transformations of 4-alkoxytetrahydro-1-naphthalenepropionic acids. S. I. Sergievskaya and I. M. Lipovich (S. Ordzhonikidze Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) **20**, 1171-9(1950); cf. C. A. **43**, 2195g. 5,6,7,8-Tetrahydro-1-naphthol (I) (74 g.) in 125 ml. abs. EtOH contg. 31 g. KOH, refluxed 3 hrs. with 177 g. MeI in 125 ml. abs. EtOH, yielded 62 g. *Me ether*, b_{10} 129-31°. Condensation of this with succinic anhydride gave *β-(4-methoxy-5,6,7,8-tetrahydro-1-naphthoyl)propionic acid* (II), m. 177-9°; this (5 g.) heated 6 hrs. with 50 ml. abs. MeOH and 1 ml. concd. H_2SO_4 gave 4 g. of the *Me ester*, m. 80-2.5° (from EtOH-Me_2CO), hydrolyzed with alc. KOH to II, m. 177-9°. Addn. of 74 g. I to 31 g. KOH dissolved as much as possible in 125 ml. hot abs. EtOH, followed by addn. of 170 g. PrBr in 125 ml. abs. EtOH and refluxed 2-3 hrs., gave 70 g. *Pr ether*, b_{10-11} 141-2°; this (30 g.), 16 g. succinic anhydride, and 400 ml. dry $PhNO_2$, treated slowly with 48 g. $AlCl_3$ and let stand overnight, followed by stirring 6 hrs., gave on hydrolysis with ice water 32 g. crude *4-propoxy homolog* of II, isolated via the *Na salt* and purified by heating the crude acid with MeOH in the presence of H_2SO_4 through the *Me ester*, m. 47-8° (from EtOH), b_{4-5} 216-22°, which when heated 6 hrs. with EtOH-KOH gave the *free acid*, m. 134-7° (from EtOH). Similar reactions yielded the *Bu ether* of I, b_{22} 168-70°, which condensed as above with succinic anhydride gave the crude *4-butoxy homolog* of II, purified via the *Me ester*, b_{5-6} 228-32°, m. 35-6° (from EtOH), which on boiling with alc. KOH yields the *free acid*, m. 114-17° (from EtOH); the latter (5 g.) heated 21 hrs. with 33 ml. 1:1 HCl, 33 ml. AcOH, 33 ml. MePh, and 25 g. Zn-Hg (3 addns. of 1:1 HCl) gave 2.7 g. *4-butoxy-5,6,7,8-tetrahydro-1-naphthalenebutyric acid*, m. 90-2° (from aq. MeOH). A similar reaction sequence yielded the *heptyl ether* of I, b_{11-12} 178-80°, and the *Me ester*, b_{5-6} 215-20°, of the *4-heptyloxy homolog* of II, m. 91-2° (from EtOH); the same acid was obtained by adding 2.3 g. KOH in 30 ml. abs. EtOH to 10 g. Et β-(4-hydroxy-5,6,7,8-tetrahydro-1-naphthoyl)propionate, heating 2 hrs. with 15 g. $C_7H_{15}Br$ in EtOH (yield, 10 g. *Et ester*, b_{5-6} 215-18°), and sapong. the Et ester. The latter procedure with $C_6H_{13}I$ yielded the *Et ester*, b_{6-7} 235-40°, of the *4-hexyloxy homolog* of II, m. 92-4° (from EtOH). Heating 6 g. II 4 hrs. to 120-30° with 60 ml. AcOH and 20 ml. 48% HBr, followed by evapn. *in vacuo* and extn. with alkali, gave 1 g. *4-HO acid*, m. 192-4.5° (from C_6H_6-EtOH), also obtained (11.5 g.) by heating 27 g. II in 1160 ml. C_6H_6 5 hrs. with 55 g. $AlCl_3$ (added slowly); the EtO and BuO acids give the same result. Refluxing the 4-HO acid with EtOH in the presence of H_2SO_4 gave the *Et ester*, m. 122-4° (from MeOH). Reduction of the free acid by Clemmensen method gave 65% *4-hydroxy-5,6,7,8-tetrahydro-1-naphthalenebutyric acid*, m. 127-30° [from (CH_2Cl)].

G. M. Kosolapoff

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The synthesis and transformation of 4-alkoxytetrahydro-1-naphthalenepropionic acids. S. I. Sergievskaya and I. M. Lipovich. *J. Gen. Chem. U.S.S.R.* **20**, 1215-22(1950) (Engl. translation).—See *C.A.* **45**, 1560a. R. M. S.

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Methods of preparation of 1 naphthaleneacrylic acid and its ethyl ester. S. I. Sergievskaya, K. A. Levshina, and E. N. Petrova (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 1478-80(1950). A convenient synthesis of 1-C_9H_7CH:$CHCO_2H$ (I) is given as follows: Dry EtOAc (80 ml.) and 4 g. powd. Na cooled rapidly to 0° are treated with 1 ml. abs. EtOH, then with 20 g. 1-C_9H_7CHO at 0-5°, stirred 3 hrs., treated with 20 ml. AcOH, the ppt. dissolved by adding 60 ml. H_2O, and the soln. extd. with EtOAc, giving 21 g. (72%) I *Et ester* b_{10} 170-92°; this allowed to stand in abs. EtOH with 1.2 g. NaOH overnight gave the Na salt, which with HCl gave 80% of the *free* I, m. (crude) 293-5° (pure) m. 208-10° (from EtOH or MeOH). The yield of pure product is 43.7% (based on the aldehyde). If the Et ester is redistd. and allowed to stand, it solidifies and m. 37-8.5° (from EtOH), b_{10} 190-7°; the yield of pure ester is 33% (based on the aldehyde). G. M. K.

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5-Nitro-1-naphthalenepropiolic acid and its transformations S. I. Sergievskaya and K. V. Levshina (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) **20**, 1481-6(1950). Bromination of 2 g. *5,1-$O_2NC_6H_4CH:CHCO_2Et$* with 1.8 g. Br in $CHCl_3$ over 3 days gave 75% *dibromide*, m. 147° (from EtOH). This (2.8 g.) in 75 ml. EtOH, treated at 35-40° with 2.8 g. KOH in 12 ml. EtOH and allowed to stand 12-15 hrs., gave a ppt. of *K 5-nitro-1-naphthalenepropiolate*, which with dil. H_2SO_4 gave 0.65 g. *free acid* (I), decomp. 182-4° in a preheated bath (from $CHCl_3$). It sublimes partly at 155°; heating with EtOH and H_2SO_4 8 hrs. yields the *Et ester*, m. 121-2° (from EtOH), which on reduction in EtOH-HCl with Fe and treatment with Ac_2O yields *II 5-acetamido-1-naphthalenepropiolate*, m. 184.5-4.0° (from EtOH). I heated with pyridine 4 hrs. to 100° yields *5-nitro-1-naphthylacetylene*, m. 156-7° (from EtOH). Warming I with excess $SOCl_2$ on a steam bath, removing the $SOCl_2$ *in vacuo*, and treating the residue with $Et_2NCH_2CH_2OH$ in CaH_2 (4 hrs.) gave I *2-diethylaminoethyl ester*, isolated as the *HCl salt*, yellow solid, m. 180-2° (from abs. EtOH). Reduction with Fe in EtOH-HCl at reflux temp. yielded the *5-amino analog*, isolated as the *citrate*, gray powder, fusing at 80°, liquefying at 90°, and forming a clear fluid at 135-40° (from abs. EtOH). The product was *devoid* of *anesthetic values*. C. M. K.

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The preparation of 1-naphthaleneacrylic acid and its ethyl ester. S. I. Sergievskaya, K. V. Levshina, and E. N. Petrova. *J. Gen. Chem. U.S.S.R.* 20, 1539–41(1950)(Engl. translation). —See *C.A.* 45, 2158*d*. R. M. S.

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5-Nitro-1-naphthalenepropiolic acid and its transformations. S. I. Sergievskaya and K. V. Levshina. *J. Gen. Chem. U.S.S.R.* 20, 1543-8(1950)(Engl. translation). See C.A. 45, 2158f.

R. M. S.

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Dealkylation of β-(2-alkoxy-1-naphthoyl propionic acids and oxidation of β-(2-ethoxy-1-naphthoyl propionic acid. S. I. Sergievskaya and A. A. Chemerisskaya (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 2284-8(1950). Heating 1 g. 2,1-$MeOC_10H_6COCH_2CH_2CO_2H$ 5 hrs. with 2 g. $AlCl_3$ in 35 ml. C_6H_6 on a steam bath gave 0.7 g. *β-(2-hydroxy-1-naphthoyl)propionic acid* (I), m. 116-17° (from H_2O); the EtO analog gave 0.6 g. Heating 2.5 g. I 6 hrs. with 40 ml. EtOH and 1.2 ml. concd. H_2SO_4 gave 1.8 g. *Et ester*, m. 92-3° (from EtOH). Clemmensen reduction of 0.3 g. I with 1.6 g. Zn-Hg, 1.5 ml. concd. HCl, 1.5 ml. AcOH, and 1.5 ml. MePh 20 hrs. (with 3 additns. of 0.5 ml. HCl) gave *γ-hydroxy-1-naphthalenebutyric acid*, m. 131-6° (cf. following abstr.). Heating 0.75 g. I Et ester 4 hrs. with 10 ml. 5% alc. KOH and 5 g. EtI gave *Et β-(2-ethoxy-1-naphthoyl)propionate*, m. 50-1° (from EtOH). 2,1-$EtOC_10H_6O$-$CH_2CH_2CO_2H$ (7 g.) refluxed 1.5 hrs. with NaOCl (from 11.4 g. Cl and 210 ml. 9% NaOH) gave 1.25 g. *2-ethoxy-1-naphthaleneglyoxylic acid* (II), m. 159-61° (from EtOH), and NaOH-insol. matter from which 0.5 g. *2-ethoxy-1-naphthaldehyde* (III), m. 109-10.5° (from EtOH), was isolated by extn. with Et_2O; the aldehyde boiled with $PhNH_2$ in EtOH 5 hrs. gave the *anil*, m. 71-2° (from EtOH). Heating II with EtOH in the presence of H_2SO_4 gave the *Et ester*, m. 70.5-1.0° (from EtOH), giving the *free* II on hydrolysis with cold 6% alc. KOH. II yields a *semicarbazone*, m. 188.5-9.5° (from MeOH), and 0.5 g. heated 1 hr. with 0.2 g. $PhNH_2$ in EtOH gave III, m. 108-10°. G. M. Kosolapoff

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CA

Synthesis, structure, and transformations of 3-(2-ethoxy-1(6)-naphthoyl)propionic acids. S. I. Sergievskaya, A. V. Danilova, and A. A. Chemerisskaya (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 2314-20(1950). Addn. of 120 g. $AlCl_3$ with stirring and cooling to 120 g. 2-$C_{10}H_7OEt$, 11 l. $PhNO_2$, and 66 g. succinic anhydride in 10 hrs., letting stand 8 hrs., and heating 3 hrs. to 40-5° gave after the usual treatment 67 g. mixed keto acids, m. 125-32°; esterification of this by refluxing 6 hrs. with 300 ml. EtOH and 30 ml. concd. H_2SO_4 and crystn. from EtOH gave 14.4 g. less sol. *Et 3-(2-ethoxy-6-naphthoyl)propionate*, m. 94-5°, and 11.2 g. *1-naphthoyl analog*, m. 51-2°. Hydrolysis by 6% alc. KOH gave the *corresponding free acids*, m. 162-3° (I), and m. 103-4° (II). If the Friedel-Crafts reaction is run in CS_2 the yield is much lower and the 1-$C_{10}H_7CO$ isomer predominates. I purified by reesterification m. 164-5°; II, similarly purified, m. 161-5°. I *oxime*, m. 145-6°. I with NaOCl yields *2-ethoxy-6-naphthoic acid*, m. 205-6°, which, heated with HBr-AcOH, gives the *2-HO analog*, m. 240-1° (*acetate*, m. 224-5°), yielding the *Et ester* (by refluxing in EtOH with H_2SO_4), m. 139-40.5° (from EtOH). Clemmensen reduction of the 2-HO acid over 20 hrs. gave *2-hydroxy-6-naphthalenebutyric acid*, m. 154-7° (from aq. EtOH), also obtained by heating *2-methoxy-6-naphthalenebutyric acid*, m. 131-5° (from the C_6H_5CO analog by Clemmensen reduction), 3 hrs. with AcOH-HBr. Clemmensen reduction of II gave *2-ethoxy-1-naphthalenebutyric acid*, m. 93-4° (from aq. EtOH). Similar treatment of the 2-MeO analog gave *2-methoxy-1-naphthalenebutyric acid*, m. 81-3°. Refluxing either acid with AcOH-HBr gave the *2-HO analog*, m. 136.5-7.5° (from EtOH). Slow addn. of 20 g. 20% Na-Hg to 1.75 g. 2,1-$MeOC_{10}H_6COCH_2CH_2CO_2H$ in 35 ml. 5% Na_2CO_3 over 8 hrs., stirring 2 hrs., sepn. of Hg, extn. of the oils with Et_2O, acidification with 10% HCl, and boiling 10 min. gave 0.35 g. *γ-(2-methoxy-1-naphthyl)butyrolactone*, m. 126-8° (from EtOH). The *6-naphthyl analog*, prepd. similarly, m. 121-3°; *γ-(2-ethoxy-1-naphthyl)butyrolactone*, prepd. similarly, m. 127-8° (from EtOH), and its *6-naphthyl analog* m. 125-6°. G. M. Kosolapoff

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➤ The dealkylation of β-2-alkoxy 1 naphthoyl propionic acids and the oxidation of β-2-ethoxy 1 naphthoyl propionic acid. Sv. I. Sergieyskaya and A. A. Chemerisskaya. J. Gen. Chem. U.S.S.R. 20, 2379-81(1950) (Engl. translation). See C.A. 45 7089.

B. L. M.

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SERGIYEVSKAYA, S. I.

"Reduction of B-(alkoxyaryl) propionic acids and the preparation of (Alkoxyaryl) butyrolactones." by I. M. Lipovich and S. I. Sergiyevskaya. (p. 123)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1951, Volume 21, No. 1

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5-(2-Propoxy(or butoxy)-6-naphthoyl)propionic acids and their transformations. S. I. Sergieyskaya and A. A. Chemerisskaya (S. Ordzhonikidze All-Union Chem. Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, 584-9(1951). Addn. of 104 g. $AlCl_3$ with cooling to 10[illegible] g. 2-$C_{10}H_7OPr$, 61.8 g. succinic anhydride, and 1 l. dry $PhNO_2$, stirring 5 hrs., and treatment with dil. HCl gave a little insol. solid, m. 169-70°, while the filtrate yielded from the org. layer 26.5 g. *β-(2-propoxy-6-naphthoyl)propionic acid* (I), m. 169-70.5° (from EtOH); heating with AcOH-HBr yields the *2-HO analog*, m. 227-9°. Heating I 6 hrs. with EtOH in the presence of H_2SO_4 gave the *Et ester*, m. 92-3.5° (from EtOH); the free I yields an *oxime*, m. 140-2° (from C_6H_6). Clemmensen reduction (in MePh) gave after 20 hrs. about 30% *2-propoxy-6-naphthalenebutyric acid*, m. 119.5-20.5° (from dil. EtOH); *Et ester*, m. 55-6° (from EtOH). Slow addn. of 11 g. 20% Na-Hg to 0.9 g. I acid, 20 ml. 5% Na_2CO_3, and 10 ml. EtOH (this may be omitted) with gradual addn. of 10% HCl, stirring 2 hrs., removal of the Hg, extn. with Et_2O, acidification of the aq. layer, boiling 10 min., extn. with Et_2O and evapn., gave 0.35 g. *γ-(2-propoxy-6-naphthyl)-γ-butyrolactone*, m. 127.5-9.0° (from EtOH). Heating 150 g. 2-$C_{10}H_7OH$, 450 ml. BuOH, and 60 g. H_2SO_4 6 hrs. gave 88 g. 2-$C_{10}H_7OBu$, m. 31-3°. This (40 g.) and 28 g. succinic anhydride were gradually added to 88 g. $AlCl_3$ and 500 ml. $PhNO_2$ with ice cooling and stirred 100 hrs.; the usual treatment gave 8.4 g. *β-(2-butoxy-6-naphthoyl)propionic acid* (II), m. 150-2° (from EtOH), which with HBr-AcOH yields the *2-HO analog*, m. 228-30°, while EtOH-H_2SO_4 treatment yields the *Et ester*, m. 82-3°, readily sapond. to the original I, m. 150-1°, with alc. KOH; *Bu ester*, prepd. either by heating with BuOH in the presence of H_2SO_4 or by heating with BuBr in alc. KOH, m. 75-7° (crude), m. 76-7.5° (from MeOH). II *oxime*, m. 143-5° (decompn.; from EtOH). Clemmensen reduction of II (20 hrs.) yielded *7-butoxy-6-naphthalenebutyric acid* (III), m. 114-16° (from EtOH), which, heated with AcOH-HBr yields the *2-HO acid*, while heating with EtOH-H_2SO_4 yields the Et ester of III, m. 49-50° (from EtOH). Treatment of I as described above yields *γ-(2-butoxy-6-naphthyl)butyrolactone*, m. 120-1° (from EtOH).

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Amino ketones of the tetrahydronaphthalene series. Synthesis of 1-hydroxy-4-(aminoacetyl)-5,6,7,8-tetrahydronaphthalenes. S. I. Sergievskaya and R. G. Vdovina (All-Union Chem. Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, 1088-96(1951).—*1-Hydroxy-4-acetyl-5,6,7,8-tetrahydronaphthalene* (10 g.) in 50 ml. ice-cooled dry pyridine with 10 ml. BzCl gave after 6 hrs. 61% *1-benzoate*, m. 115-16° (from EtOH); this (10 g.) in 50 ml $CHCl_3$ was brominated with 1.8 ml. Br, warmed to 25-30° briefly, then evapd. *in vacuo*, and aerated to remove the excess Br and HBr, yielding 62.5% *1-benzoxy-4-(bromoacetyl)-5,6,7,8-tetrahydronaphthalene* (I), m. 128-9° (decompn., from CCl_4). The structure is proved by condensation with $CH_2(CO_2Et)_2$ (Na deriv.) and hydrolysis with 10% aq. alc. KOH, yielding *(5,6,7,8-tetrahydro-4-hydroxy-1-naphthoylmethyl)malonic acid*, m. 157-9°, which heated in pyridine to 120-5° gave authentic *β-(5,6,7,8-tetrahydro-4-hydroxy-1-naphthoyl)propionic acid*, m. 190-1° (*Et ester*, m. 121-3°). I (9 g.) in 27 ml. C_6H_6 stirred 3 hrs. with 6 g. $PhCH_2NHMe$, then let stand overnight, gave 95% $PhCH_2NHMe.HBr$, m. 165-6°, while the filtrate on evapn. and trituration with abs. Et_2O, then treatment with dry HCl, gave 32% *1-benzoxy-4-[(benzylmethylamino)acetyl]-5,6,7,8-tetrahydronaphthalene-HCl*, m. 192-4° (from Me_2CO-MeOH); *picrate*, yellow, m. 137-8° (from EtOH). Refluxing 10-16 hrs. with 30% MeOH-aq. HCl gave 50% *free 1-HO analog*, decomp. 199-201.5° (from EtOH), while the Bz deriv. with H over Pd-C in MeOH gave 50% *1-benzoxy-4-(methylaminoacetyl)-5,6,7,8-tetrahydronaphthalene-HCl* (II), decomp. 223-5° (from EtOH); similar hydrogenolysis of the HO deriv. itself, gave 70% *1-hydroxy-4-(methylaminoacetyl)-5,6,7,8-tetrahydronaphthalene-HCl* (III), decomp. 232-3.5° (from EtOH), also formed from the Bz deriv. by refluxing 10-12 hrs. with 30% aq. MeOH-HCl. I (3 g.) in 20 ml. dry C_6H_6 mixed with 0.5 g. $MeNH_2$ in 3 hrs. gave *1-benzoxy-4-(methylaminoacetyl)-5,6,7,8-tetrahydronaphthalene as a salt*, m. 223-5°, identical with II. Refluxing this with 20% aq. EtOH-HCl 12 hrs. gave III, m. 234-6°. Similar condensation of I with $PhCH_2NH_2$ gave 34.5% *benzylamino analog*, isolated as the *HCl salt*, decomp. 194.5-6.0 (from abs. EtOH), hydrolyzed with aq. MeOH-HCl to 43% *1-hydroxy-4-(benzylaminoacetyl)-5,6,7,8-tetrahydronaphthalene-HCl*, decomp. 201.5-3.0° (from abs. EtOH). Its *Bz deriv. HCl salt* (1 g.) with H in abs. MeOH over 10% Pd-C at 25-7° gave *1-benzoxy-4-(aminoacetyl)-5,6,7,8-tetrahydronaphthalene-HCl*, m. 202.5-4.0° (from Me_2CO-MeOH), whose aq. soln. shows rapid hydrolysis; similar hydrogenolysis of the 1-HO analog gave 10% *1-hydroxy-4-(aminoacetyl)-5,6,7,8-tetrahydronaphthalene-HCl*, decomp. 235-7° (from EtOH-Et_2O). Condensation of I with Et_2NH in C_6H_6 in 4.5 hrs. gave 80% crude, 42% pure, *1-benzoxy-4-(diethylaminoacetyl)-5,6,7,8-tetrahydronaphthalene-HCl*, decomp. 181.5-3.5° (from abs. EtOH), whose aq. solns. readily hydrolyze; *picrate*, m. 122-3° (from EtOH-Et_2O); hydrolysis with aq. MeOH-HCl for 12 hrs. gave 60% *1-hydroxy-4-(diethylaminoacetyl)-5,6,7,8-tetrahydronaphthalene-HCl*, decomp. 203-5° (from MeOH-Me_2CO).

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CA

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7 Amino ketones of the tetrahydronaphthalene series. Synthesis of 1-hydroxy-4-(aminoacetyl)-5,6,7,8-tetrahydronaphthalenes. S. I. Sergievskaya and R. G. Vdovina. *J. Gen. Chem. U.S.S.R.* 21, 975-83(1951)(Engl. translation).—See *C.A.* 46, 957*d*. B. R.

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PA 194T62

USSR/Chemistry - Pharmaceuticals Dec 51

"(N-Alkyl-N-Hydroxyethyl)-Amides of 4 (5)-Nitro-1-Naphthoic Acids," S. I. Sergiyevskaya, Ye. N. Petrova, All-Union Sci Res Chemicophar Inst imeni S. Ordzhonikidze

"Zhur Obshch Khim" Vol XXI, No 12, pp 2174-2178

Prepd (N-butyl-N-hydroxyethyl)- and (N-isobutyl-N-hydroxyethyl)-amides of 4-nitro-1-naphthoic acid and (N-isobutyl-N-hydroxyethyl)-amide of 5-nitro-1-naphthoic acid. Carried out amide-ester rearrangement with certain of these compds.

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SERGIYEVSKAYA, S. I.

USSR/Chemistry - Pharmaceuticals Feb 52

"ac-Tetrahydronaphthoic and ac-Tetrahydrothionaphthoic Acids and Their Derivatives," S. I. Sergiyevskaya, N. P. Volynskiy, All-Union Sci Res Chem-Phar Inst imeni S. Ordzhonikidze, Moscow

"Zhur Obshch Khim" Vol XXII, No 2, pp 321-328

Prepd simplest derivs of ac-tetrahydronaphthoic acids (not described in the literature) and their alkylaminoalkyl esters. Found that mp of amide of ac- α-tetrahydronaphthoic acid is 168°, not 116°C as indicated in the literature. Prepd ac-tetrahydrothionaphthoic acids, their ethyl and alkylaminoalkyl esters.

209T30

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

CA

Organic Chemistry - 10

Anesthetic substances of the naphthalene series. VII. Monoalkylaminoalkyl esters of some naphthalenecarboxylic acids. S. I. Sergievskaya and E. N. Petrova (S. Ordzhonikidze Chem. Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) **22**, 328-33(1952); cf. *C.A.* **45**, 2458*f*; **46**, 2003*h*.—Heating 3.25 g. 4,1-$O_2NC_{10}H_6COCl$ 24 hrs. at 55° with 1.5 g. $PrNHCH_2CH_2OH$ in $CHCl_3$ satd. with HCl gave *2-propylaminoethyl 4-nitro-1-naphthoate-HCl* m. 173-4° (from EtOH); reduction over Raney Ni in MeOH gave the *4-amino analog*, m. 208-8.5° (from EtOH). Similarly were obtained the following *2-alkylaminoethyl 4-nitro-1-naphthoate-HCl salts* and the *p-amino analogs* (m.ps. in brackets): *iso-Pr*, m. 175-6° [200.5-1.0° (from EtOH)]; *Bu*, m. 162.5-3.0° (from EtOH) [206-7° (from EtOH)]; *iso-Bu*, m. 152-3° (from EtOH) [m. 181-2° (from EtOH)]; *heptyl*, m. 148-9° [m. 191-2° (from EtOH)]. 5,1-O_2N-$C_{10}H_6COCl$ with $BuNHCH_2CH_2OH$ in $CHCl_3$ satd. with HCl gave *2-butylaminoethyl 5-nitro-1-naphthoate-HCl*, m. 197-8°, reduced to the *5-amino compd.*, m. 217-20°. Similarly was obtained *2-isobutylaminoethyl 5-nitro-1-naphthoate-HCl*, m. 220-1°, which could not be reduced satisfactorily. Heating 1-$C_{10}H_7CH{:}CHCOCl$ with $BuNHCH_2CH_2OH$ in $CHCl_3$ satd. with HCl gave *2-butylaminoethyl 1-naphthalenacrylate-HCl*, m. 139.5-40.5°; iso-$BuNHCH_2CH_2OH$ gave the *iso-$BuNHCH_2CH_2$ ester-HCl*, m. 182-3° (from EtOH). The products were prepd. for evaluation as anesthetics.

G. M. Kosolapoff

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USSR/Chemistry - Pharmaceuticals Mar 52

"Synthesis of m-Amino (Hydroxy)-Phenyl-β-(Methylamino)-Ethanols and Catalytic Reduction of m-Nitroacetophenone," S. I. Sergiyevskaya, G. A. Ravdel', All-Union Sci Res Chem-Phar Inst imeni S. Ordzhonikidze

"Zhur Obshch Khim" Vol XXII, No 3, pp 496-502

m-Aminophenyl-β-(methylamino)-Ethanol was obtained. Its structure was shown by its transformation into the hydrochloride of the known m-hydroxyphenyl-β-(methylamino)-ethanol. Gives a

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USSR/Chemistry - Pharmaceuticals (Contd) Mar 52

method for obtaining m-hydroxyphenyl-β-(methylamino)-ethanol, and describes a method for obtaining m-amino-acetophenone by a catalytic conversion.

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SERGIYEVSKAYA, S. I.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

USSR/Chemistry - Synthetic Drugs Jun 52

"Nitration of ac-1-Tetrahydronaphthoic Acid and Transformations of Nitro-ac-1-Tetrahydronaphthoic Acids," S. I. Sergiyevskaya, N. P. Volynskiy, All-Union Sci Res Chem-Phar Inst imeni Ordzhonikidze, Moscow

"Zhur Obshch Khim" Vol XXII, No 6, pp 1035-1047

In nitration of ac-1-tetrahydronaphthoic acid with HNO_3 of sp gr 1.5, 5,7-dinitro-(1,2,3,4-tetrahydro)-1-naphthoic acid is formed; in nitration with HNO_3 of sp gr 1.4, a mixt of 2 mononitroacids, 5- and

218T26

USSR/Chemistry - Synthetic Drugs (Contd) Jun 52

7-(1,2,3,4-tetrahydro)-1-naphthoic acids, is obtained. A method for sepg them is given. Their structure was clarified by their conversion into compds with known structures. By means of catalytic reduction, the corresponding diamino- and amino-ac-1-tetrahydronaphthoic acids were obtained from them. The simplest derivs of all nitro(amino)-ac-1-tetrahydronaphthoic acids were prepd. 5(7)-Nitro-ac-1-tetrahydrothionaphthoic acids and their derivs were obtained.

218T26

SERGIYEVSKAYA, S. I.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIEVSKAYA, S.I.; VOLYNSKIY, N.P.

Nitration of 1,2,3,4-tetrahydro-2-naphthoic acid. Zhur. Obshchey Khim. 22, 1446-50 '52. (MLRA 5:8)
(CA 47 no.13:6387 '53)

1. S. Ordzhonikidze All-Union Chem.Pharm. Inst., Moscow.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIEVSKAYA, S. I.

chem (2) 4

Chemical Abst.
Vol. 48 No. 5
Mar. 10. 1954
Organic Chemistry

Nitration of 1,2,3,4-tetrahydro-2-naphthoic acid. S. I. Sergievskiya and N. P. Volynskii. *J. Gen. Chem. U.S.S.R.* 22, 1489-91(1952)(Engl. translation).—See *C.A.* 47, 6388a. H. L. H.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

32T29

USSR/Chemistry - Pharmaceuticals Sep 52

"Dehydrogenation and Oxidation of 2-Ethoxy-(5, 6,7,8-tetrahydronaphthoyl-3)-propionic Acid," S. I. Serfiyevskaya, I. M. Lipovich, All-Union Sci Res Inst imeni S. Ordzhonikidze, Moscow

"Zhur Obshch Khim" Vol 22, No 9, pp 1650-1655

The constitution of 2-ethoxy-(5,6,7,8-tetrahydranaphthoyl-3)-propionic acid was detd more precisely by oxidizing this compd into 2-ethoxy-3-tetrahydranaphthoic acid and subsequent conversion of the latter into compds of known

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structure. The dehydrogenation of 2-ethoxy-(5, 6,7,8)-tetrahydronaphthyl-3-butyric acid was carried out in the presence of palladium deposited on carbon.

232T29

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Chem Abs v47
1-25-54
Organic chemistry

1,1-phenylcyclopentanecarboxylic acid and derivatives. K. V. Levshina and S. I. Serfiyevskaya (S. Ordzhonikidze All-Union Chem. Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 22, 2189–93(1952).—To 1530 ml. 48% HBr is carefully added 307 ml. concd. H_2SO_4 and the mixt. treated gradually with 172 g. tetrahydrofuran after which the mixt. is heated on an oil bath gradually up to 100–5° at which it is kept 20–3 hrs. (temp. in the mixt.); the lower layer and $CHCl_3$ ext. of the top layer yield 70% ($BrCH_2CH_2$)$_2$, b_{15} 85–90° (I). To 87 g. $NaNH_2$ in 1.3 l. dry MePh is gradually added 109.3 g. $PhCH_2CN$ at below 35°, the mixt. is stirred 5–10 min. and 200 g. I is added at 50–5°, after which the mixt. is stirred at 90–2° 24 hrs., cooled, treated with H_2O to take up pptd. NaBr and the org. layer and MePh ext. of the aq. layer are combined and distd., yielding 110 g. (70%) *1,1-phenylcyclopentanecarbonitrile* (II), b_{1-2} 145–60°. II (80 g.) and 450 ml. 20% KOH in MeOH heated in rotating autoclave 6 hrs. at 195–200° (35–40 atm. pressure), cooled, concd., dild. with H_2O, extd. with $(CH_2Cl)_2$, and filtered and acidified with 250 ml. 1:1 HCl, gave 95% crude *1,1-phenylcyclopentanecarboxylic acid*, m. 157–8° (from EtOH), m. 159°; Na salt, needles, m. above 220°; *acyl chloride* (III), b_{3-4} 149–50°. III (44.7 g.) in 350 ml. C_6H_6 added gradually to KSH soln., obtained by satn. of 25.3 g. KOH in 14 ml. H_2O and 447 ml. EtOH with H_2S at −5° stirred 20–30 min. filtered, and concd., yielded 65–70% *K 1,1-phenylcyclopentanethiocarboxylate*, m. 166–7° (from EtOAc), which with 10% HCl yields 85% *free acid* (IV), m. 43–4° (from EtOH). III (11 g.) in C_6H_6 at −5° with soln. of 5.5 g. KOH in 100 ml. EtOH and 3 ml. H_2O satd. with H_2S (5–6 g. wt. gain), filtered and the ppt. washed with H_2O, gave *RCOSCOR*, $C_{14}H_{24}O_2S_2$, m. 138–9° (from EtOAc). IV (3 g.) in EtOH acidified to Congo red with HCl, and treated with alc. $FeCl_3$ gave 1.5 g. *RCOSSCOR*, $C_{14}H_{20}O_2S_2$, m. 82–3.5° (from EtOAc-EtOH). Heating K salt of IV with EtI in abs. EtOH gave the *Et ester*, b_{1-2} 131°; similarly $Et_2NCH_2CH_2Cl$ gave the *diethylaminoethyl ester; HCl salt*, m. 137–7.5° (from EtOAc). $Et_2N(CH_2)_3Cl$ gave the *diethylaminopropyl ester; HCl salt*, m. 132–3° (from EtOAc-EtOH).

G. M. Kosolapoff

(3) Chem

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Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Organic Chemistry

4

2 Chem

The synthesis of 1-phenylcyclopentanecarboxylic acid and 1-phenylcyclopentanethiocarboxylic acid and some of their derivatives. K. V. Leshina and S. I. Sefficyskaya. *J. Gen. Chem. U.S.S.R.* 22, 2247-50(1952)(Engl. translation).—See *C.A.* 48, 584g. H. L. H.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIEVSKAYA, S.I.; VOLYNSKIY, N.P.

2-Naphthoic acid from 2-iodonaphthalene. Zhur. Priklad. Khim. 25, 898-9 '52. (MLRA 5:8)
(CA 47 no.20:10514 '53)

1. S.Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIYEVSKAYA, S. I.

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Organic Chemistry

Condensation of *ar*-1-methoxytetrahydronaphthalene with chlorides of fatty acids. S. I. Sergievskaya and K. A. Kropacheva (S. Ordzhonikidze All-Union Chem. Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 23, 463-6(1953); cf. *C.A.* 40, 7186[9].—*ar*-1-Methoxytetrahydronaphthalene (I) (30 g.) in 240 ml. $PhNO_2$ treated with 11.5 g. AcCl, then at 0° with 30 g. $AlCl_3$, stirred 4 hrs., allowed to stand 24 hrs. at room temp., and treated with ice-HCl, gave 82.6% *Me ar-1-methoxytetrahydro-4-naphthyl ketone*, b_3 147-8°, b_3 152-3°. This (5 g.) refluxed 6 hrs. in dry C_6H_6 with 10 g. $AlCl_3$ and then treated with ice-HCl gave 3.8 g. *HO analog*, m. 154-5°. Similarly 80 g. I with 60 g. EtCOCl and 75 g. $AlCl_3$ gave 26 g. *Et ar-1-methoxytetrahydro-4-naphthyl ketone*, b_{15} 169-71°, m. 36-7°; with $AlCl_3$ in C_6H_6 as above yielded 55% *1-HO analog*, m. 152-3°; attempt to cleave the MeO link by refluxing the ether in AcOH with 48% HBr gave only a low yield of tetrahydro-*ar*-1-naphthol, m. 63-5°. Similarly I and PrCOCl gave 67.9% *Pr ar-1-methoxytetrahydro-4-naphthyl ketone*, b_{15} 184-6°, converted as above to the *1-HO analog*, 60.7%, m. 131-2°. I and palmitoyl chloride similarly gave *pentadecyl ar-1-methoxytetrahydro-4-naphthyl ketone*, $b_{0.05}$ 214-16°, an oil which solidified on standing. G. M. Kosolapoff

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIYEVSKAYA, S.I.

Nitration of 1-propylnaphthalene and 4-nitro-1-propylnaphthalene; 4-amino-(-propyl)naphthalene and some of its derivatives. S. I. Sergiyevskaya and G. Ya. Uretskaya (S. Ordzhonikidze All-Union Sci. Research Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 23, 1522-5(1953).—RMgBr from 207.2 g. 1-$C_{10}H_7Br$ treated with 121 g. CH_2:-$CHCH_2Br$ in 300 ml. C_6H_6 gave 60% 1-$C_{10}H_7CH_2CH$:CH_2, b_{11} 134-5°, which hydrogenated over Raney Ni in EtOH gave 93% 1-$C_{10}H_7Pr$, $b_{10.4}$ 134.5°, d_4^{20} 1.0004(?), n_D^{20} 1.5928. This (30.9 g.) treated during 1 hr. with 62 ml. HNO_3 (d. 1.4) at 40°, then stirred 20-30 min., and the 80% yield of crude material repeatedly distd., gave 14.5 g. 4-nitro deriv., $b_{0.5}$ 143-4°, m. 34-5° along with a liquid residue of higher boiling nitro deriv. Hydrogenation of the 4-nitro deriv. in EtOAc over Raney Ni gave 80% *4-amino deriv.*, $b_{0.4}$ 174-5°, b_3 154.5°; *Ac deriv.*, m. 133°; *Bz deriv.*, m. 165-6°; *N-EtO_2C deriv.*, m. 69.5-70°; *N-iso-PrO_2C deriv.*, m. 105.5-6.5°; *N-MeO_2C deriv.*, m. 67-8°. Treatment of the amine with *p-$AcNHC_6H_4SO_2Cl$* in pyridine at 55-60° gave *1,4-$PrC_{10}H_6NHSO_2C_6H_4NHAc$-p*, m. 182.5-3.0°, which, heated 2 hrs. with 13% NaOH yielded *1,4-$PrC_{10}H_6NHSO_2C_6H_4NH_2$-p*, m. 175.5-6.5°.

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SERGIYEVSKAYA, S.I.

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Catalytic method of preparation of 1-methylnaphthalene from 1-chloromethylnaphthalene. S. I. Sergiyevskaya, G. Ya. Uretskaya, and T. S. Safonova (S. Ordzhonikidze All-Union Sci. Research Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 23, 1027-30(1953).—Hydrogenation of 1-$ClCH_2C_{10}H_7$ (I) over Raney Ni in the presence of alc. NaOH yields 60-70% 1-$MeC_{10}H_7$, 1-$C_{10}H_7CH_2OEt$ (II) and bis(1-naphthyl)ethane (III). With dry AcONa in EtOH the reaction yields 85% 1-$MeC_{10}H_7$. Shaking 17.3 g. I in 200 ml. alc. NaOH and 10 g. Raney Ni in H atm. gave 59% 1-$MeC_{10}H_7$, b_3 110-13° (picrate, m. 141-1.5°), and 0.5 g. higher boiling materials. I (50 g.) in 14.5 g. NaOH and 350 ml. EtOH, shaken with 10 g. Raney Ni at 27.5 atm. H at room temp. gave 20.9% 1-$MeC_{10}H_7$ and about 7 g. II, $b_{0.4}$ 130-5°. The high boiling fractions from both expts. gave III, m. 164°. Pure II $b_{0.7}$ 133-6°, b_4 134-6°. I (10 g.), 7.3 g. dry NaOAc and 100 ml. 96% EtOH shaken with 10 g. Raney Ni in H atm. at atm. pressure gave 73.7% 1-$MeC_{10}H_7$ and a little III. The same reaction run at 28 atm. H gave in 1 hr. 85% 1-$MeC_{10}H_7$, and small amounts of II and III. I (10 g.), 15 ml. EtOAc, 3.7 g. NaOH and 100 ml. 96% EtOH shaken with 10 g. Raney Ni at atm. pressure gave 86.2% 1-$MeC_{10}H_7$, and 1 g. III. The reaction run at 28 atm. H gave 85% 1-$MeC_{10}H_7$ and a little III.

G. M. Kosolapoff

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

PERSHIN, G.N., laureat Stalinskoy premii, professor, redaktor; SHCHUKINA, M.N., professor, redaktor; NATRADZE, A.G., otvetstvennyy sekretary'; SERGIYEVSKAYA, S.I., professor, chlen redaktsionnoy kollegii; MAGIDSON, O.Yu., professor, laureat Stalinskoy premii, chlen redaktsionnoy kollegii; UTKIN, L.M., professor, chlen redaktsionnoy kollegii; MASHKOVSKIY, M.D., professor, chlen redaktsionnoy kollegii; KARAKHANYAN, O.I., redaktor; GLUKHOYEDOVA, G.A., tekhnicheskiy redaktor.

[Synthomycin] Sintomitsin. Otvet. red. G.N.Pershin. Moskva, Gos. izd-vo med. lit-ry. 1954. 194 p. (MLRA 7:8)

1. Moscow. Nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut.
(Chloromycetin)

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SERGIYEVSKAYA, S.I.

[Chemistry and medicine; anesthetics of the naphtaline and tetro-hydronaphtalene series] Khimiia i meditsina; anesteziruiushchie veshchestva riada neftalina i tetragidronaftalina. Moskva, Medgiz, 1954. 197 p. (MLRA 8:2)

(Anesthetics) (Naphthalene)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIYEVSKAYA, S.I.

SERGIEVSKAYA, S. I.

USSR/Chemistry

Card 1/1

Authors : Levshina, K. V.; and Sergievskaya, S. I.

Title : Derivation of aliphatic-aromatic N-bis-(ethyl chloride)-amines

Periodical : Zhur. Ob. Khim. 24, Ed. 5, 905 - 909, May 1954

Abstract : The derivation of new aliphatic-aromatic compounds, namely benzyl-N-bis-(ethyl chloride)-amines with alkoxy groups in the aromatic nucleus is described. Certain other analogous compounds were also synthesized. The most suitable method in the synthesis of benzyl-N-bis-(ethyl chloride)-amines is the one in which aromatic chloromethylated compounds ($ArCH_2Cl$) were the basic substances. The success of the synthesis depends to a greater extent upon the availability of the basic chloromethylated compound and its properties. New data are presented on the methods of obtaining certain basic substances. Six references (all English and German). Tables.

Institution : The S. Ordzhonikidze All-Union Scientific-Research Chemical-Pharmaceutical Institute, Moscow, USSR

Submitted : December 3, 1953

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SERGIYEVSKAYA, S.I.

CH

Nitration of *ar*-tetrahydronaphthalene-2-carboxylic acid and the transformations of 1-nitro- and 4-nitro-5,6,7,8-tetrahydronaphthalene-2-carboxylic acids. S. I. Sergiyevskaya and E. G. Popova (S. Ordzhonikidze All-Union Sci. Research Chem. Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 25, 2154–61(1955).—To 43 ml. HNO_3 (d. 1.5) was added with stirring and cooling over 45 min. 35.2 g. *ar*-tetrahydronaphthalene-2-carboxylic acid at 0°; after 30 min. the mixt. was filtered, yielding 31.1% *1-nitro-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid* (I), m. 221° (from $ClCH_2CH_2Cl$). The mother liquors from purification of this gave the crude *4-nitro analog;* this was esterified with EtOH-HCl and the crude product, treated with EtOH, left behind the less sol. *Et* I *ester*, m. 107–8°; the soln. was distd. yielding the *Et ester* of the *4-nitro analog*, b_3 180–6°; hydrolysis with 0.5*N* KOH gave 5.4% *4-nitro-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid* (II), m. 200° (from MeOH). If the nitration of the carboxylic acid (15 g.) is done in 65 ml. concd. H_2SO_4 with 8.7 g. KNO_3 and 20 ml. H_2SO_4 at 0° there is formed 5 g. I and 0.7 g. II. Hydrogenation of I over Ni in EtOH gave 78% *1-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid* (III), decomp. 185°; II similarly gave *4-amino analog* (IV), m. 192–3°. These on heating

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with $Ba(OH)_2$ are readily decarboxylated; treatment of the amines with Ac_2O gave, resp., *1-acetamido-5,6,7,8-tetrahydronaphthalene*, m. 158°, and the *4-acetamido analog*, m. unstated. III diazotized in aq. HCl and heated with much H_2O to 40–50° gave *1-hydroxy-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid*, m. 166.5–7.5°; IV gave the *4-hydroxy analog*, m. 192–4°. I refluxed with EtOH-HCl gave 85% *Et ester*, b_2 164°, m. 109°; MeOH gave the *Me ester*, m. 149–50°. I with $SOCl_2$ gave the *acyl chloride*, m. 97–8°; *amide*, m. 218–19.5°; *hydrazide*, m. 163°. II gave: *Et ester*, m. 52–2.5°; *Me ester*, m. 59.5–60°; *acid chloride*, m. 50–1°; b_2 161–2°, *hydrazide*, m. 181.5–2°. Hydrogenation of I Et ester over Raney Ni at 20 atm. gave III *Et ester* (*HCl salt*, m. 165–7°), which with Ac_2O gave *Et 1-acetamido-5,6,7,8-tetrahydronaphthalene-2-carboxylate*, m. 132.5–3.5°. I hydrazide hydrogenated over Raney Ni to III *hydrazide*, m. 147–8°. II Et ester hydrogenated thus to IV *Et ester*, m. 65°; II hydrazide gave IV *hydrazide*, m. 138.5–9.5°; IV with Ac_2O gave *4-acetamido-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid*, decomp. 293°.

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SERGIYEVSKAYA, S.I.

Some transformations of 1-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid. S. I. Sergievskaya and E. G. Popova. *J. Gen. Chem. U.S.S.R.* 25, 2203-4(1955) (Engl. translation).—See *C.A.* 50, 9427*h*. B. M. R.

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SERGIYEVSKAYA, S.I.

Some transformations of 1-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid. S. I. Sergievskaya and E. G. Popova (S. Ordzhonikidze All-Union Chem. Pharm. Research Inst., Moscow). *Zhur. Obshchei Khim.* 25, 2240-2(1955); cf. *C.A.* 50, 8509d.—Heating 15 g. 1-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid with 30 ml. Ac_2O 20 min. at 80° gave 91% *2-methyl-7,8,9,10-tetrahydro-4H-naphth[1,2-d]-m-oxazin-4-one*, m. 122-4° (from EtOH). This (12 g.) kept 2 days with a slight excess of 5% NaOH, filtered, and acidified to Congo red gave 12.9 g. *1-acetamido-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid*, m. 183-4° (decompn.) (from $ClCH_2CH_2Cl$). The same forms from the amino acid and AcCl in pyridine; the same product is obtained from the amino acid on heating with AcOH 3.5 hrs. at 100°. G. M. Kosolapoff

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SERGIYEVSKAYA, S. I.

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Alkylaminoalkyl esters of 1-amino- and 4-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylic acids. S. I. Sergiyevskaya and E. G. Popova. *J. Gen. Chem. U.S.S.R.* 25, 2379-81(1955)(English translation).—See *C.A.* 50, 9355i.
B. M. R.

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SERGIYEVSKAYA, S.I.

Alkylaminoalkyl esters of 1-amino- and 4-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylic acids. S. I. Sergievskaya and E. G. Popova (S. Ordzhonikidze All-Union Chem. Pharm. Sci. Research Inst., Moscow). *Zhur. Obshchei Khim.* 25, 2488-92(1955); cf. *C.A.* 39, 701[2]; preceding abstr.—Reaction of the acyl chlorides with ω-dialkylaminoalkanols in C_6H_6 gave the following esters: *2-diethylaminoethyl 1-nitro-5,6,7,8-tetrahydronaphthalene-2-carboxylate-HCl*, m. 172-3°; *Me_2N analog-HCl*, m. 167-8°; *2-diethylaminoethyl 4-nitro-5,6,7,8-tetrahydronaphthalene-2-carboxylate-HCl*, m. 170-2°; *Me_2N analog-HCl*, m. 181-2°. Heating the free acid with $R_2N(CH_2)_3Cl$ on iso-PrOH gave: 39.6% *3-diethylaminopropyl 1-nitro-5,6,7,8-tetrahydronaphthalene-2-carboxylate-HCl*, m. 161-3° (reduced with H over Raney Ni to the *1-amino analog-HCl*, m. 186-7°). Similar hydrogenation gave: *2-dimethylaminoethyl 1-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylate-HCl*, m. 150-7°; *2-diethylaminoethyl 4-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylate-HCl*, m. 154-5°; the *Me_2N analog-HCl*, m. 195-6°; *3-diethylaminopropyl 1-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylate-HCl*, m. 124° (decompn.). *Et 4-amino-5,6,7,8-tetrahydronaphthalene-2-carboxylate* treated in C_6H_6 with $Et_2N-CH_2CH_2Cl$ 5 hrs. at reflux gave *Et 4-(2-diethylaminoethylamino)-5,6,7,8-tetrahydronaphthalene-2-carboxylate-HCl*, m. 162-4°.

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USSR

Some derivatives of 4-amino-1-methylnaphthalene. S. I. Sergievskaya and G. Ya. Uretskaya. *J. Appl. Chem. U.S.S.R.* 28, 109-11(1955)(Engl. translation).—See *C.A.* 49, 7537*h*. H. L. H.

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Authors : Sergiyevskaya, S. I. and Uretskaya, G. Ya.

Title : Some derivatives of 1-naphthalenemethylamine

Periodical: Zhurnal prikl. khim., 28, no.1, 115-118, 1955

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

Abstract : A method of nitration of 1-methylnaphthalene, which yields 30% of 4-nitro-1-methylnaphthalene is given. Preparation of some derivatives of naphthalenemethylamine is described. Two references (1 Russian: 1947)

Institution: All-Union Chemopharmaceutical Scientific Research Institute (im. S. Ordzhonikidze) in Moscow

Submitted : My 30, 1953

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SERGIYEVSKAYA, S. I.

Chem

Derivatives of 4-hydroxy- and 4-butoxy-5,6,7,8-tetrahydronaphthalene-2-carboxylic acids. S. I. Sergievskaya and E. G. Popova (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 26, 155-6; *J. Gen. Chem. U.S.S.R.* 26, 155-7(1956)(Engl. translation).—*4-Hydroxy-5,6,7,8-tetrahydronaphthalene-2-carboxylic acid* (I) (12 g.) in 120 ml. MeOH was treated with 6 ml. H_2SO_4, followed by dry HCl (10% wt. increase) and refluxed 12 hrs. yielding 96% *Me ester*, m. 127.5-8.5°. I heated with Ac_2O gave the *4-acetate*, m. 180-1°. I Me ester refluxed in MeEtCO with BuI and powd. K_2CO_3 10 hrs. gave 70% *Me 4-butoxy-5,6,7,8-tetrahydronaphthalene-2-carboxylate*, m. 49-50°, which was sepd. from residual starting material by its greater soly. in petr. ether. Hydrolysis of this with alc. KOH gave 82% *4-Bu ether* of I, m. 166-7°. This with $SOCl_2$ gave 84% *acyl chloride*, b_5 180-2°, m. 47.5-8.5°, which with the appropriate amino alc. in hot C_6H_6 gave the *2-diethylaminoethyl ester*, m. 148.5-9.5°, and *2-dimethylaminoethyl ester*, m. 125-6°. I *Et ester*, m. 110-11°; *hydrazide*, m. 211-13°; *iso-Am ester*, m. 57-9°, b_4 206-8°.

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~~SERGIYEVSKAYA, S.I.~~

SERGIYEVSKAYA, S.I.

Alkaromatic amino alcohols. I. Synthesis of α-(m-aminophenyl)-β-alkylaminoethanols. S. I. Sergiyevskaya and L. E. Sventsitskaya (S. Ordzhonikidze All-Union Chem. Pharm. Research Inst., Moscow). *Zhur. Obshchei Khim.* 26, 1067-76(1956).—To 30.5 g. m-$O_2NC_6H_4COCH_2Br$ suspended in 150 ml. C_6H_6 was added at 15-18° 30.25 g. $PhCH_2NHMe$ in 30 ml. C_6H_6 and after 2 hrs. 200 ml. Et_2O was added and the pptd. $PhCH_2NHMe.HBr$ was filtered off. The filtrate treated to Congo red with Et_2O-HCl gave 94.5% m-$O_2NC_6H_4COCH_2NMeCH_2Ph.HCl$ (I), decomp. 173-4°. Similarly was obtained: 54% m-$O_2NC_6H_4COCH_2NEtCH_2Ph.HCl$, decomp. 154-4.5° (from EtOH); 93.9% o-$O_2NC_6H_4COCH_2N(CH_2Ph)CHMe_2.HCl$, decomp. 155.5-6.5°; 76.7% m-$O_2NC_6H_4COCH_2N(CH_2Ph)Pr.HCl$, decomp. 164.5°; 44.4% m-$O_2NC_6H_4COCH_2N(CH_2Ph)Bu.HCl$, decomp. 115-18°; 78.2% m-$O_2NC_6H_4COCH_2NAm$-$CH_2Ph.HCl$, decomp. 138.5-9.5°. Hydrogenation of I in MeOH over Raney Ni at 35 atm. H and 76° 2 hrs. gave $PhCH_2NHMe$ and about 30% liquid, $b_{0.5}$ 115-55°, which on fractional pptn. from Et_2O gave 2 products: m-$H_2NC_6H_4CH(OH)CH_2NHMe$ (II), m. 84-5°, and m-$H_2NC_6H_4CH(OH)Me$, m. 68-9°. If the hydrogenation was run over Pd in EtOH contg. 5% H_2O and 1.4% concd. HCl, there was obtained 82.6% II, m. 84-5°; *N,N'-diacetyl deriv.* (III), m. 152.5-3.5°. This amino alc. acidified with Et_2O-HCl to Congo red and the resulting oil taken up in EtOH, pptd. with Me_2CO, and shaken with excess KOH gave 74.2% *2,2,3-trimethyl-5-(m-aminophenyl)tetrahydrooxazole* (crude, $b_{0.1}$ 127-40°), m. 95.5-6.5°, which with Ac_2O readily gave III, while heating the oxazole deriv. with EtOH-HCl followed by treatment with NH_3 yielded 75.1% II. Hydrogenation of

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Sergievskaya, S. I., ...

the remaining nitro derivs. over Pd as above gave *m*-$H_2NC_6H_4CH(OH)CH_2NRCH_2Ph$ (*R* shown): 68.8% *Et*, m. 80-1° (*di-Ac deriv.*, m. 133-3.5°); 53.8% *iso-Pr*, m. 80.5-1.5° (*di-Ac deriv.*, m. 136-6.5°); 50% *Pr*, m. 74-5° (*di-HCl salt*, decomp. 203-4°); 62.4% *Bu*, m. 79.5-80° (*di-HCl salt*, decomp. 212-13°); 74.2% *Am*, m. 87-8° (*di-HCl salt*, decomp. 227-8°). II. α-(*p*-Aminophenyl)-β-alkylaminoethanols. *Ibid.* 2077-81.—Addn. of 24.2 g. $PhCH_2NHMe$ in 25 ml. C_6H_6 at 15-18° to 24.4 g. *p*-$O_2NC_6H_4COCH_2Br$ in C_6H_6 gave, after sepn. of $PhCH_2NHMe.HBr$, a reddish oil, which with Et_2O-HCl gave 18.8 g. *p*-$O_2NC_6H_4COCH_2NMeCH_2Ph.HCl$, decomp. 178.5°; similarly were prepd.: *p*-$O_2NC_6H_4COCH_2NRCH_2Ph.HCl$ (*R*, % yield given): *Et*, 32.8%, m. 145.5-6.5°; *iso-Pr*, 33%, m. 159°; *Pr*, 14.3%, m. 102.5°; *Bu*, 28%, decomp. 146.5-47°; *Am*, 31.6%, decomp. 140.5°. Hydrogenation in EtOH over Pd gave *p*-$H_2NC_6H_4CH(OH)CH_2NHR$ (*R* given); *Me*, m. 124-4.5°; *Et*, m. 134.5-5.5°; *iso-Pr*, m. 137-8°; *Pl*, m. 89.5-90°; *Bu*, m. 89-90°; *Am*, m. 72.5-73°. The *Me* deriv. gave the *di-HCl salt*, decomp. 130°; the *Bu* deriv. yielded the *di-HCl salt*, m. 135-7°. The di-HCl salts of the remaining amino alcs. were analyzed but the m.ps. were not given. III. Methods of preparation of α-(*m*-hydroxyphenyl)-β-(methylamino)ethanol. S. I. Sergievskaya, A. A. Kropacheva, and L. E. Sventsitskaya. *Ibid.* 2322-5.—Hydrogenation of 20 g. *m*-$HOC_6H_4COCH_2NMeCH_2Ph.HCl$ in 145 ml. MeOH with 0.3-0.4 g. Raney Ni at 50-60° under 20-30 atm. H gave, after sepg. the Ni, evapg. the MeOH, decolorizing in H_2O with active C, cooling, and adding 10 ml. 20% NH_4OH, *m*-$HOC_6H_4CH(OH)CH_2NHMe$, which with HCl gave the *HCl salt* (I), 70%, m. 142-5° (from EtOH-Me_2CO). *m*-$H_2NC_6H_4CH(OH)CH_2NHMe$ (9.5 g.) in 25 ml. 10%

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Sergievskaya, S. I., ...

HCl treated with 0.5*N* $NaNO_2$ at 5° (or below), heated 30 min. to 75°, concd. *in vacuo*, taken up in EtOH, filtered, evapd., taken up in H_2O, and treated with NH_3 gave 70% I, m. 142-4°. Shaking 12.8 g. *m*-$O_2NC_6H_4COCH_2NMeCH_2Ph.HCl$ in 75 ml. H_2O with 1.28 g. $PdCl_2$ at 35° in H with 5 ml. H_2O and 2.3 ml. concd. HCl gave after 4.5 hrs. reaction, followed by sepn. of Pd, addn. of HCl and $NaNO_2$ (finally heating to 78°), 49% I, m. 142-4°; *free base*, m. 157-8°. G. M. Kosolapoff

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SERGIYEVSKAYA, S.I. ; SVENTSITSKAYA , L.Ye.

Research in the field of aliphatic-aromatic amino alcohols. Part2. α - (p-aminophenyl)- β -alkylaminoethanols. Zhur.ob.khim. 26 no.7:2077-2081 Jl '56. (MLRA 9:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Ethanol)

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SERGIYEVSKAYA, S.I.; KROPACHEVA, A.A.; SVENTSITSKAYA, L.Ye.

Study of fatty-aromatic amino alcohols. Part 2: Methods for the preparation of α-(m-hydroxyphenyl)-β-methylaminoethanol. Zhur. ob. khim. 26 no.8:2322-2325 Ag '56. (MLRA 10:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Ethanol)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

Alkaromatic amino alcohols. III. Methods of preparation of α-(m-hydroxyphenyl)-β-(methylamino)ethanol. S. I. Sergievskaya, A. A. Kropacheva, and L. E. Sventsitskaya. *J. Gen. Chem. U.S.S.R.* 26, 2597-9(1956)(English translation).—See *C.A.* 51, 5047*e*. B. M. R.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIYEVSKAYA, S. I.

Chem

Alkylated diamidines of the stilbene series. I. M. Lipovich and S. I. Sergievskaya (S. Ordzhonikidze All-Union Chem. Pharm. Research Inst., Moscow). *Zhur. Obschei Khim.* 26, 3462–4(1956).—Addn. with cooling of an EtOH soln. of the appropriate amine to the di-HCl salt of the 4,4'-di-(imino ether) of the appropriate stilbene gave after 1 day in the cold a ppt. which after clarification with C in hot H_2O gave the desired diamidine as the di-HCl salt on acidification with 10% HCl and cooling. Thus were prepd. 64% *4,4'-di(methylamidino)stilbene-2HCl*, m. above 340°; 50% *4,4'-di(methylamidino)-2-hydroxystilbene-1 HCl*, m. above 320°; 43% *4,4'-di(butylamidino)-2-h roxystilbene-2HCl*, decomp. 309–11°; 31% *4,4'-di(diethyl midino)-2-hydroxystilbene-2HCl*, m. 300–2°; 50% *4,4'-d amidino-2-nitrostilbene-2HCl*, m. above 320°; 47% *4,4'-d (methylamidino)-2-nitrostilbene-2HCl*, decomp. 320°; 50% *4,4'-diamidino-2-aminostilbene-3HCl*, decomp. 315–18°; 0% *4,4'-di(methylamidino)-2-chlorostilbene-2HCl*, m. above 320°; 50% *4,4'-di(methylamidino)-2-iodostilbene-2HCl*, m above 320°; 35% *4,4'-di(benzylamidino)-2-hydroxystilbene-2 HCl*, decomp. 314–16°. It was found that in the Sandmeyer conversion of *p,p'*-diaminostilbene to the dicyano ana log the diazonium soln. is best added to the $Cu_2(CN)_2$ soln. with cooling and in the presence of C_2H_4 to eliminate the otherwise bothersome foaming. C. M. Kosolapoff

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SERGIYEVSKAYA, S. I.

Chem

Preparation of 1-alkylnaphthalenes. S. Sergievskaya and T. S. Safonova (S. Ordzhonikidze All-Union Chem. Pharm. Sci. Research Inst., Moscow). Zhur. Obshchei Khim. 26, 3479-85(1956).—A satisfactory 75-95% yield method for 1-alkylnaphthalenes was developed on the basis of dehydration of corresponding alkanols with $KHSO_4$ and hydrogenation over Ni. Dehydration of 1-naphthyl-1-butanol in KOH led to isomerization of the aliphatic group. Distn. of 1-$C_{10}H_7CHMeOH$ (38.5 g.) from 6.2 g. $KHSO_4$ and 0.25 g. hydroquinone on open flame gave 27 g. product, b_1 93-6°; identified as largely 1-vinylnaphthalene, b_1 93-4°; *picrate*, m. 101°. This hydrogenated over Raney Ni in EtOH at room temp. and atm. pressure 15 min. gave 75% *1-ethylnaphthalene*, b_1 109-10°, d_{20} 1.02[illegible]8, n_D^{20} 1.6069; *picrate*, m. 99°. Similarly 1-$C_{10}H_7CHEtOH$ gave the olefinic product, b_1 98-100° (*picrate*, m. 110-[illegible]1°), which on hydrogenation gave 78.6% *1-PrC$_{10}H_7$*, b_1 114-14.5°, d_{20} 0.9902, n_D^{20} 1.6001; *picrate*, m. 93°. Similarly 37 g. 1-$C_{10}H_7CMe_2OH$ gave 27.5 g. olefinic product, b_1 103-5°, b_{10} 122-3° (picrate, m. 89-90°), which gave 80% *1-iso-PrC$_{10}H_7$*, b_{10} 130-1°; *picrate*, m. 88°. 1-$C_{10}H_7MgBr$ (from 51.8 g. RBr) with 20.6 g. PrCHO gave 4[illegible].1 g. *1-$C_{10}H_7$-CHPrOH*, b_1 130-1° (*picrate*, m. 51-2°), which dehydrated as above to the *olefin*, b_{10} 143-5° (*picrate*, m. 91-2°), which gave 95.6% *1-$C_{10}H_7Bu$*, b_{10} 148.5-9°, d_{20} 0.97[illegible]6, n_D^{20} 1.5872 (*picrate*, m. 64-5°). Oxidation of the olefin with $KMnO_4$ gave 1-$C_{10}H_7CO_2H$, confirming the structure. If the alc. is distd. from powd. KOH at 30 mm., there is formed a mixt. b_{30} 130-40°, which does not contain 1-(α-naphthyl)butanol and on hydrogenation yields 66.8% pure 1-$C_{10}H_7Bu$, identical with the above, but this requires an extensive fractionation. Oxidation of the olefin mixt., b_{30} 130-40°, with $KMnO_4$ gave 64.5% 1-$C_{10}H_7CO_2H$, 10.1% 1-$C_{10}H_7CH_2CO_2H$, and 7% carbonyl compd. which forms a semicarbazone identical with that, m. 207-8°, from 1-$C_{10}H_7A$[illegible]

G. M. Kosolapoff

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AUTHORS: Sergiyevskaya, S. I. and Safonova, T. S.

TITLE: About the Nitration of 1-n-Butylnaphthalin (O nitrovanii 1-n-butilnaftalina)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 421-428 (U.S.S.R.)

ABSTRACT: The reaction of nitration of 1-n-butylnaphthalin, 4-nitro-1-n-butylnaphthalin and 4,5-dinitro-1-n-butylnaphthalin in nitric acid of various concentration was investigated under different conditions. Separation of the nitro compounds formed as a result of nitration was accomplished by means of the chromatographic adsorption method. Temperature and nitric acid concentration had a positive effect on the formation of mono-, di- and trinitro compounds during the nitration of 1-butyl-naphthalin. During the nitration of 4,5-dinitro-1-butylnaphthalin, the authors encountered conditions in which trinitro-1-butylnaphthalin was the sole reaction product. Consequent conversion of 1-butylnaphthalin through 4-nitro-1-butylnaphthalin into 4,5-dinitro-1-butylnaphthalin and 4,5-dinitro-1-butylnaphthalin into trinitro-1-butylnaphthalin showed that the two nitro groups in the latter compound are in 4 and 5 positions of the naphthalin ring. The position of the third nitro group in trinitrobutylnaphthalin is explained.

Card 1/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

AUTHORS: Sergiyevskaya, S. I. and Safonova, T. S. 79-2-33/58

TITLE: 4-Amino-1-n-Butylnaphthalin and its Conversions (4-Amino-1-n-butilnaftalin i yego prevrashcheniya)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 428-431 (U.S.S.R.)

ABSTRACT: 4-Amino-n-butylnaphthalin was obtained by catalytic reduction of 4-nitro-1-n-butylnaphthalin in the presence of a skeletal nickel catalyst. The catalytic reduction also yielded the hydrochloride, acetyl and benzoyl derivatives of this compound. The derivation of 4-chloro-1-n-butylnaphthalin, 4-iodo-1-n-butylnaphthalin and 4-n-butyl-1-naphthoic acid is described. The 4-amino-1-n-butylnaphthalin is described as a liquid substance, rapidly darkening when exposed to air, particularly when heated. Distillation of this substance was possible only in a nitrogen atmosphere in the presence of antioxidizers. 4-n-butyl-1-naphthoic acid was obtained from 4-iodo-1-n-butylnaphthalin by means of the Grignard reaction.

Card 1/2 1 Reference, which is Slavic.

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6

Alkaromatic amino alcohols. IV. Pharmacologically active aryltetrahydroöxazoles. S. I. Sergievskaya, L. E. Sventsitskaya, and Yu. I. Sarnevs (S. Ordzhonikidze Ul. Union Chem. Pharm. Research Inst., Moscow, [illegible]

[illegible] NH_2 with cooling followed by filtration and evapn. gave 1.5 g. 2,2-dimethyl-3-ethyl-5-(p-aminophenyl)tetrahydroöxazole, m. 86– [illegible] EtOH. Heating 2 g. $MeNHCH_2CH(C_6H_4OH\text{-}m)$-OH HCl with 1 g. BzH, a little K_2CO_3, and excess MeOH 2 hrs. similarly gave 1.2 g. 2-phenyl-3-methyl-5-(m-hydroxyphenyl)tetrahydroöxazole, m. 168 [illegible] HCl salt, colorless crystals. The products [illegible] activity [illegible]

Kozolapoff

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∀ Nitration of 1-stavinaphthalene, 4-nitro- and 1,5-dinitro-1-stavinaphthalene. [illegible]

[illegible] 37 [illegible] to 34 [illegible] 37 [illegible] Lev[illegible] 30, 13, 47; Barton [illegible] Warren, C. 1. 32, 4077[illegible] —Addn of 62 ml. HNO_3 (d. 1.4 [illegible] 45° over 45 min. to 25.5 g. 1-$C_{10}H_7Et$ (I), stirring 0.5 [illegible] and dilu. with H_2O gave 95% products, b_{15} 160–70°, which yielded 43% mainly 4-nitro deriv. (II), b_{15} 151–3°. To 5 ml. HNO_3 (d. 1.4) was added at 40° in 10 min. 2.5 g. I, after which the mixt. was quenched in H_2O yielding after extn. with Et_2O and washing with Na_2CO_3, 3.2 g. oil, which chromatographed on Al_2O_3 and eluted successively with petr. ether, C_6H_6 and EtOH gave in order: 79.8% II, 6.5% I 4,5-dinitro deriv. (III), m. 171–2° (from EtOH), and tars. Oxidation of II with 11% HNO_3 8 hrs. at 165–73° gave 4-nitro-1-naphthoic acid, m. 222–3°. To 2 ml. HNO_3 (d. 1.48) was added in 5 min. 0.8 g. I at −10°; after 10 min. the mixt. was dilu. and worked up chromatographically as above yielding 4.6% II and 71.3% III, m. 171–2°, identical to the above described; the latter oxidized as above with 11% HNO_3 at 170° gave 4,5-dinitro-1-naphthoic acid, m. 258°. To 2 ml. HNO_3 (d. 1.5) was added in 10 min. at −10° 0.8 g. I and after 10 min. stirring at [illegible] the mixt. was dilu. and worked up as above yielding [illegible] 23% I trinitro deriv., m. 199–200° (from C_6H_6), [illegible] III the material, m. 125–6°. To 2 ml. HNO_3 [illegible] was added at −10° 1 g. II and after stirring 10 min. the mixt. gave after the usual treatment 20% II and [illegible] III. To 2 ml. HNO_3 (d. 1.5) was added in 5 min. at 20° 1 g. II and after stirring 10 min. the mixt. yielded 65.6% I trinitro deriv., m. 198–9°. To 2 ml. HNO_3 (d. 1.5) was added at 10° 1 g. III and after 10 min. the mixt. was worked up yielding 58.4% III and much tar. Hydrogenation of II

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

Sergievskaya, S.I.; Sofonova, T.S.; Lisetskaya, G.Ya.

in EtOAc and EtOH over Raney Ni at 25–40° at atm. pressure gave on distn. in presence of Et 2-mercapto-4-aminobenzoate inhibitor, 80% *4-amino-1-ethylnaphthalene*, b.p. 150-1°; *Ac deriv.*, m. 149-50°; *Bz deriv.*, m. 204-4.5°. Heating the amine with Me_2NPh and $ClCO_2Et$ gave *Et 1-ethyl-4-naphthalenecarbamate*, m. 84-5° (from petr. ether).

G. M. Kosolapoff

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r-gi\e V S K a y a

Distr: 4E4j/4E3d

7

Chloromethylation of 1-alkylnaphthalenes and some transformations of 4-chloromethyl-1-alkylnaphthalenes. S. I. Sergievskaya and T. S. Safonova (S. Ordzhonikidze All-Union Chem. Pharm. Sci. Research Inst., Moscow). *Zhur. Obshchei Khim.* 27, 1645-50(1957).—Heating 25 g. 1-$C_{10}H_7Bu$ and 17 g. paraformaldehyde with 6 g. $ZnCl_2$ and 60 ml. concd. HCl at 65-70° in a stream of dry HCl gave after several distns. 81% *4-chloromethyl-1-butylnaphthalene* (I), b_1 140-1°. Similarly were prepd. *4-chloromethyl-1-ethylnaphthalene*, $b_{0.4}$ 119-20°; *1-Pr analog* b_1 140-1°, and *1-iso-Pr analog*, $b_{0.4}$ 126-7°. These heated with $Pb(OAc)_4$ in AcOH 2 hrs. at 90° gave 80-90% *4-acetoxy-1-butylnaphthalene*, b_1 149.5-50°; *1-Et analog*, $b_{0.4}$ 134-5°; *1-Pr analog*, b_1 150-1°; *1-iso-Pr analog*, $b_{0.4}$ 149-50°. These refluxed with alc. KOH 0.5 hr. gave 90-8% *4-hydroxymethyl-1-butylnaphthalene*, m. 89.5-90°; *1-Et analog*, m. 81.5-2°; *1-Pr analog*, m. 83.5-9°; *1-iso-Pr analog*, m. 64-5°. These oxidized with $KMnO_4$ in refluxing Me_2CO gave 90-5% *1-butylnaphthalene-4-carboxylic acid*, m. 148-8.5°; *1-Et analog*, m. 129-30°; *1-Pr analog*, m. 141-2°; *1-iso-Pr analog*, m. 153-3.5°. Heating 15 g. I with 6.2 g. $HN(CH_2CH_2OH)_2$ 6.5 hrs. at 90°, cooling, treating with 30 g. $SOCl_2$ in C_6H_6, and heating 1.5 hrs. at 68-70° gave after treatment with dry HCl in Et_2O 16.6 g. *N-1-butyl-4-naphthylmethyl-N,N-bis(2-chloroethyl)amine HCl salt* (II), m. 129.5-30.5°; the *free base* was an undistillable oil; similarly were prepd. *analogs* of II: *1-Et*, m. 147-8°; *1-Pr*, m. 158.5-9°; and *1-iso-Pr*, m. 129.5-30.5°.

G. M. Kosolapoff

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SOV/79-28-6-37/63

AUTHORS: Sventsitskaya, L. Ye., Kropacheva, A. A., Sergiyevskaya, S.I.

TITLE: 2,4-Di-(Ethylenimino)-1,3,5-Triazine (2,4-di-(etilenimino)-1,3,5-triaziny)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1601-1607 (USSR)

ABSTRACT: Among the 1,3,5-triazine products the 2,4,6-triethylenimino-1,3,5-triazine has been well known for a long time as medicament against some kinds of carcinoma; this caused the upshoot of a great number of analogous compounds and supplied a great contribution of new data to the chemistry of ethylenimino triazines. In their search for better remedies against carcinoma the authors synthesized the 2,4-di-(ethylenimino)-1,3,5-triazines which in the third substituent (R) in the cycle of triazine either contain a nitrogen-containing heterocyclic radical or as radical the ester of an aliphatic or aliphatic-aromatic amino acid (see scheme 1). In the synthesis of the substituted 1,3,5-triazines cyanuric chloride usually serves as initial material, in which the chlorine atoms

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are either completely or only partially substituted by other groups or radicals. The substitution can be carried out in different ways in dependence on the character of the reacting compounds and on the conditions of reaction (Ref 1). Two ways could be taken to synthesize the compounds chosen: 1) To synthesize the already known 2,4-di-(ethylenimino)-6-chloro-1,3,5-triazine and to substitute the chlorine by corresponding amino acids in it; or 2) First to substitute only one chlorine atom in the cyanuric chloride by the amino compound in order to then react it on the substituted 2,4-dichlorotriazine with ethylenimine (see scheme 2). Both methods were used. Thus the 6-substituted 2,4-di-(ethylenimino)-1,3,5-triazines were obtained. Those substituted were nitrogen-containing heterocycles and esters of aliphatic and aliphatic-aromatic amino acids. In general the biologic properties of these products are similar to those of triethyleniminotriazine without having special medical-clinical advantages as compared to those already used in medical practice. There are 3 references, o of which are Soviet.

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2,4-Di-(Ethylenimino)-1,3,5-Triazine SOV/79-28-6-37/63

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S. Ordzhonikidze (All-Union Scientific Chemo-Pharmaceutical Research Institute imeni S. Ordzhonikidze)

SUBMITTED: May 19, 1957

1. Triazines--Synthesis

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

AUTHORS: Sergiyevskaya, S. I., Levshina, K. V., Chizhov, A. K., Gavrilova, A. I., Kravchenko, A. I.

SOV/79-28-7-24/64

TITLE: N-Di(Ethyl Chloride) Amines of the Alicyclic Series. I(N-Di (khloretil) aminy alitsiklicheskogo ryada. I)

PERIODICAL: Zhurnal obshchey khimii, Vol 28, Nr 7, pp. 1839 - 1845 (USSR)

ABSTRACT: The authors discuss the synthesis and some properties of the dichloroalkylamines of the cyclopentane-, cyclohexane- and cycloheptane series. They synthetized the compounds of two types: In the one (Formula I) the di(chloroalkyl) amino group is directly bound to the carbon of the nucleus, and in the other to the carbon of the side chain (II). The compounds of type (II) are alicyclic derivatives of methyl-N-bis (ethyl chloride) amine which is of importance for medicine. The two methods used most were employed for the synthesis of N-di(ethyl chloride) amine: according to the one [=(a) of Table 1] the ethylene oxide reacts with the amino compounds, according to the other [=(b) of Table 1] the compounds containing halogens are caused to react with diethanol amine. The final stage, i.e. the substitution of the hydroxyl groups by chlorine is the same

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N-Di(Ethyl Chloride) Amines of the Alicyclic Series. I SOV/79-28-7-24/64

for both methods, according to the specific characteristic features of the N-di(oxyethyl)amines. The synthesis of the dichloro-alkyl amines of type (I) had to be carried out according to method (a). The necessary alicyclic amines as initial products had been obtained in the cyclopentane- and cycloheptane series by the reduction of the ketone oximes, and in the cyclohexane series by the catalytic hydration of the aromatic amino compounds. The chloro-methyl derivatives of the same alicyclic hydrocarbons served as initial products for the synthesis of the compounds of type (II). The chloro-methyl cycloalkanes were obtained according to the reaction scheme mentioned. Thionyl chloride served as chlorination agent (I and II)(substitution of hydroxyl by chlorine). There are 2 tables and 8 references, 2 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Institute imeni S. Ordzhonikidze)

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N-Di(Ethyl Chloride) Amines of the Alicyclic Series. I SOV/79-28-7-24/64

SUBMITTED: February 7, 1957

1. Dichloroalkylamines--Synthesis 2. Dichloroalkylamines--Properties 3. Cyclic compounds--Molecular structure 4. Ethyl chloride amines --Chemical properties

Card 3/3

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

V/79-28-7-[illegible]/64

AUTHORS: Sergiyevskaya, [illegible] I., Levshina, [illegible] V., Gavrilova, [illegible] I., Chizhov, A. [illegible]

TITLE: N-Di (Chloro-Ethyl) amines with Alicyclic and Aromatic Radicals in the Molecules. II (N-di(khloretil)aminy s alitsiklicheskimi i aromaticheskimi radikalami v molekulakh. II)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 7, pp. 1845-1849 (USSR)

ABSTRACT: The aim of the present investigation was the synthesis of the N-di(chloro-ethyl)amines which simultaneously have an aromatic and an alicyclic radical in the molecule. The structures of these compounds may be seen from the reaction scheme: the compounds (I) and (II) appear as arylated analogs of some N-di(chloro-ethyl)amines of the alicyclic series already earlier described by the authors (Ref 1). The compounds (III) differ from (I) and (II) by the fact that the aromatic radical is not a component of the alicyclic radical. The corresponding cyanogen compounds served as initial products, viz., the nitriles AR-CN for the types (I) and (II), and the nitrile

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SOV/79-28-7-25/64

N-di (Chloro-Ethyl) Amines with Alicyclic and Aromatic Radicals in the Molecules. II

R-CH-CN for type (III), where R denotes an alicyclic radical.
|
C_6H_5

All these nitriles are easily obtained by the condensation of the cyanobenzides with 1,4-dibromobutane, 1,5-dibromopentane and bromocyclohexane in the presence of sodium amide. The reduction of the nitriles to primary amines was carried out either catalytically with hydrogen or by means of lithium-aluminum hydride. The transition from amines to their N-di-(ethyloxy)-derivatives and from these to the N-di(chloroethyl) amines took place according to reference 1. In the purification of the hydrogen chloride salts of the above mentioned amines the solvents had to be selected carefully. The authors synthesized the hitherto not described N-di(chloroethyl) amines and some other compounds of the cyclopentane- and cyclohexane series. There are 1 table and 5 references, 3 of which are Soviet.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SOV/79-28-7-25/64

N-Di (Chloro-Ethyl) Amines With Alicyclic and Aromatic Radicals in the Molecules. II

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Research Institute imeni S. Ordzhonikidze)

SUBMITTED: February 7, 1957

1. Ethyl chloride amines--Molecular structure 2. Ethyl chloride --Synthesis 3. Cyclic compounds--Chemical properties

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SHCHUKINA, M.N., prof.; MASHKOVSKIY, M.D., prof.; PERSHIN, G.N., prof., laureat Stalinskoy premii, otv.red.; SERGIYEVSKAYA, S.I., prof., red.; MAGIDSON, O.Yu., prof., laureat Stalinskoy premii, red.; UTKIN, L.M., prof., red.; GROZDEVA, Ye.I., red.; LYUDKOVSKAYA, N.I., tekhn.red.

[Chemistry and medicine] Khimiia i meditsina. Otv.red. G.N. Pershin. Moskva, Medgiz. No.9. [Aminazine] Aminazin. 1959. 241 p. (MIRA 12:6)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut. 2. Zaveduyushchaya laboratoriyey protivotuberkuleznykh soyedineniy Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S.Ordzhonikidze (for Shchukina). 3. Zaveduyushchiy laboratoriyey otdela farmakologii Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta imeni S.Ordzhonikidze (for Mashkovskiy).

(CHLORPROMAZINE)

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CHERNOV, V.A.; LYTKINA, V.B.; SERGIYEVSKAYA, S.I.; KROPACHEVA, A.A.; PARSHINA, V.A.; SVENTSITSKAYA, L.Ye.

On the antitumor activity of certain derivatives of the trimer and tetramer of phosphonitrile. Farm. i toks. 22 no.4:365-367 Jl-Ag '59. (MIRA 13:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(HETEROCYCLIC COMPOUNDS pharmacol.)
(ANTINEOPLASTIC AGENTS pharmacol.)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

5(3) SOV/79-29-4-31/77

AUTHORS: Levshina, K. V., Chizhov, A. K., Sheynker, Yu. N., Sergiyevskaya, S. I.

TITLE: Sulfonic Esters of the Cyclohexane Diols and the 1,4-Butane Diol (Sul'fonovyye efiry tsiklogeksandiolov i 1,4-butandiola)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1184-1188 (USSR)

ABSTRACT: Some alkyl sulfonic esters of aliphatic diols proved to be useful active agents against some kinds of cancer. The authors had to decide whether the amount and structure of the radical of sulphur had any effect on the biological properties of the sulfonic esters of 1,4-butane diol, and whether the diol necessarily belonged to the aliphatic series. Alkyl sulfonic esters of 1,4-butane diol with the radicals C_2H_5, C_3H_7, cyclo-C_6H_{11} and alkyl sulfonic esters of the isomeric cyclohexane diols (1,2;1,3;1,4) were synthesized. All these compounds were obtained through a transformation of the corresponding sulfochlorides with the diols in water-free benzene and in the presence of triethyl amine. The synthesis of the sulfochlorides was carried out according to references 2 and 3. The initial

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

Sulfonic Esters of the Cyclohexane Diols and the 1,4-Butane Diol SOV/79-29-4-31/77

the synthesized 1,4-alkyl sulfonates of the cyclohexane (methyl-, ethyl, propyl sulfonates) does not cause any sizable changes in the spectrum (Fig 3), it may be assumed that various alkyl sulfonates exhibit the very same configuration, and that the form in question is the stable trans-form. The biological properties of the compounds obtained generally correspond to those of "milerane" (Mileran). There are 3 figures, 1 table, and 8 references, 3 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.(All-Union Scientific Chemopharmaceutical Research Institute imeni S. Ordzhonikidze)

SUBMITTED: February 10, 1958

Card 3/3

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

Aryl amides of aliphatic amino acids. Part 2: Aryl amides of glycine and glycylglycine. Zhur.ob.khim. 30 no.6:1848-1855 Je '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(Amides) (Glycine)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

N-di(chloroethyl) amides of aminocarboxylic acids and their peptides. Part 1: Method of obtaining the N-di(chloroethyl) amide of glycine and of compounds related to it. Zhur.ob. khim. 30 no.7:2432-2433 Jl '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimikofarmatsevticheskiy institut imeni S.Ordzhonikidze.
(Amides) (Glycine)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

KROPACHEVA, A.A.; PARSHINA, V.A.; SERGIYEVSKAYA, S.I.

Derivatives of ethylenimine. Part 2: Ethylenimides of phosphoric and thiophosphoric acids. Zhur. ob. khim. 30 no.11:3584-3588 N'60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

(Ethylenimine) (Phosphoric acid) (Phosphorothioic acid)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

LEVSHINA, K.V.; GAVRILOVA, A.I.; SERGIYEVSKAYA, S.I.

Bis (β-chloroethyl) amines of bicyclic compounds. Part 1: Bis (β-chloroethyl) amines of the indan series. Zhur. ob. khim. 30 no.11:3634-3639 N'60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni. S.Ordzhonikidze.
(Amines) (Indan)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

CHIZHOV, A.K.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis (β-chloroethyl) aminomethyl derivatives of azobenzene. Part 1: Method of synthesizing bis (β-chloroethyl) amines of 4-substituted-4'-methylazobenzene. Zhur. ob. khim. 30 no.11:3695-3700 N'60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(Azobenzene)

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CHIZHOV, A.K.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis (β-chloroethyl) amines of bicyclic compounds. Part 3: Some derivatives of benzocycloheptane with substituents in position 7 of the bicyclic compound. Zhur. ob. khim. 30 no.11:3700-3702 N'60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Cycloheptabenzene)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

N, N-bis(β-chloroethyl)amides of aminocarboxylic acids. Part 1: N, N-bis(β-chloroethyl)glycinamide and compounds related to it. Zhur. ob. khim. 31 no.4:1193-1199 Ap '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Glycinamide)

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CHIZHOV, A.K.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis (β-chloroethyl) aminomethylazobensenes and some analogous compounds. Zhur. ob. khim. 31 no.4:1288-1297 Ap '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Azobenzene)

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LEVSHINA, K.V.; KOLODKINA, I.I.; SERGIYEVSKAYA, S.I.

N-bis(chloroethyl)amines of bicyclic compounds. Part 5: Some new derivatives of indan, tetrahydronaphthalene, and benzocycloheptane. Zhur.ob.khim. 32 no.2:464-467 F '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

(Indan)

(Naphthalene) (Benzocycloheptane)

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KROPACHEVA, A.A.; SAZONOV, N.V.; SERGIYEVSKAYA, S.I.

Derivatives of ethylenimine. Part 4: Diethylenimides of pyrimidine-2-aminophosphoric acids. Zhur.ob.khim. 32 no.11:3796-3799 N '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Pyrimidine) (Phosphoric acid) (Aziridine)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

KOLODKINA, I.I.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis (β-chloroethyl) amines of bicyclic compounds. Part 6: 4- and 5-N-bis (β-chloroethyl) aminoindans. Zhur.ob.khim. 33 no.2:469-474 F '63. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(Indian) (Cyclic compounds) (Amines)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

Arylamides of aliphatic amino acids. Part 3: p-N-di(chloroethyl) aminophenylamides of some amino acids. Zhur. ob. khim. 34 no. 3: 919-923 Mr '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

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CHIZHOV, A.K.; LEVSHINA, K.V.; SERGIYEVSKAYA, S.I.

Bis(β-chloroethyl) aminomethyl derivatives of azobenzene. Part 3: p-Hydroxy-m-(o)-carboxy-p'-bis(β-chloroethyl)-aminomethylazobenzenes, their derivatives and analog compounds. Zhur. ob. khim. 34 no. 5:1587-1592 My '64. (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

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SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

N,N-bis(β-chloroethyl) amides of aminocarboxylic acids. Part 2: N-substituted amides of N-phthaloyl and N'-tritylalanines. Zhur. org.khim. 1 no.3:450-454 Mr '65. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S.Ordzhonikidze.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

POLIKOVSKIY, V.I., doktor tekhnicheskikh nauk; SERGIYEVSKAYA, T.G., inzhener; AL'PER, T.I., inzhener; MACHEKHINA, G.N., inzhener.

Aerodynamics of the cooling systems of large hydraulic generators. Vest.elektroprom.27 no.1:9-16 Ja '56. (MLRA 9:6)

1.Nauchno-issledovatel'skiy institut Ministerstva elektropromyshlennosti.
(Electric generators--Cooling) (Fans, Mechanical)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIYEVSKAYA, T. G. Cand Tech Sci -- (diss) " Certain ~~questions~~ problems in aerodynamics of systems of cooling electric machines." Mos, 1957. 20 pp with diagrams 22 cm. (Min of Higher Education. Mos Order of Lenin Power Engineering Inst im V,M. Molotov). (KL, 23-57, 113)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

AUTHOR: Sergiyevskaya, T.G., Engineer

TITLE: Cooling the Stator of a Large Hydrogenerator (Ob okhlazhdenii statora krupnogo gidrogeneratora)

PERIODICAL: Vestnik Elektropromyshlennosti 1957, No.2, pp.38-43 (U.S.S.R.)

ABSTRACT: Efficient ventilation is a difficult problem in large hydro-alternators but methods of achieving great improvements are now becoming available. The main problem of air flow distribution occurs in the stator. In some machines the cooling of stator windings is not uniform along the entire length of the slot and local hot spots occur. Non-uniform air flow is sometimes observed in stator ducts and the rate of air flow from top and bottom is often different. This article presents briefly the results of an investigation of the distribution of the flow of coolant in the stator ducts of a large generator. The objective was to obtain a qualitative physical analysis of the processes

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TITLE: Cooling the Stator of a Large Hydrogenerator (Ob okhlazhdenii statora krupnogo gidrogeneratora)

which govern this distribution and to develop an approximate method of computation.

The process was investigated experimentally on special models and rigs proceeding from simple to more complicated cases. Factors affecting the rate of air flow were studied, and methods of air supply which gave more uniform distribution were found. It was found that increasing the fan output to increase the flow of air could increase the non-uniformity of cooling and cause reduction in the flow through the rotor ducts. The reasons for assymetrical flow in certain generators was investigated. Methods of reducing the aerodynamic resistance of the stator were found.

The process of air flow in the stator ducts can be computed approximately; the necessary assumptions are made and a differential equation is formulated.

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TITLE: Cooling the Stator of a Large Hydrogenerator (Ob okhlazhdenii statora krupnogo gidrogeneratora)

A method of calculating the distribution of air is then worked out.

The method was used to compute air flow in a model of a hydro-alternator and also in one of the generators at the Dnepr Hydroelectric Station with air supplied from the two ends of the machine to the air gap and to the space between the poles. The results of air velocity in the ducts along the stator are plotted in the form of a graph, and there is reasonable agreement between theory and experiment.

Reference, in a footnote is made to the following: T.I. Al'per, G.N. Machekhina and A.A. Minaev.

The article contains 6 diagrams, 1 photograph and 1 graph.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

TITLE: Cooling the Stator of a Large Hydrogenerator (Ob okhlazhdenii statora krupnogo gidrogeneratora)

ASSOCIATION: Scientific Research Institute of the Ministry of Electrotechnical Industry НИИ МЭП (Naucho-Issledovatel'skiy Institut Ministerstva Elektrotekhnicheskoy Promyshlennosti)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SERGIYEVSKAYA, T.G.

110-10-7/18

AUTHOR: Polikovskiy, V.I., Doctor of Technical Sciences, Professor, and Sergiyevskaya, T.G., Al'per, T.I., Engineers.

TITLE: An investigation of systems of cooling a hydro-alternator using a ventilation model. (Issledovaniya sistemy okhlazhdeniya gidrogeneratora na ventilyatsionnoy modeli.)

PERIODICAL: Vestnik Elektropromyshlennosti, 1957, Vol.28, No.10, pp. 35 - 44 (USSR)

ABSTRACT: The problem of modelling the cooling system of a large hydro-alternator arose in connection with the design of machines for the Kuybyshev and Stalingrad Power Stations which were of considerably greater output than the largest generators previously built. It is difficult to make investigations on existing hydro-alternators because the important parts are inaccessible and it is not possible to change the operating conditions of the cooling system or to alter the design of the systems. On models these limitations are easily overcome. Complete modelling of a machine is a complicated task but it is much simpler to model only the cooling. In order to model thermal processes it is generally necessary to model electro-magnetic processes. However, the method of calculation of thermal losses of electro-magnetic origin is sufficiently accurate and therefore modelling of electro-magnetic processes can be avoided. When considering the problem to a first

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110-10-7/18

An Investigation of Systems of Cooling a Hydro-alternator Using a Ventilation Model.

approximation, it is also possible to avoid modelling the thermal processes in the system since, with the relatively small change of temperature of the air in the machine, the thermal processes have little influence on the hydraulic processes and the influence of the speed and distribution of air flows in the ducts of the system on the heat transmission can be taken into account approximately by modelling individual components of the system with subsequent thermal calculations. Thus, the task is reduced to hydraulic modelling of the complete cooling system of a hydro-alternator and its parts, thermal modelling of individual components of the machine and calculations. This article describes the first stage of a complex hydraulic investigation on the cooling system of a hydro-alternator using a ventilation model. The work was carried out in the Scientific Research Institute of the Electro-technical Industry under the leadership of Prof. V.I. Polikovskiy, with the participation of Engineers S.I. Lyubintsev and G.N. Machekhina, as well as the authors of the article.

It was decided to model a hydro-alternator of the type used in the Dneproges Station because the results obtained on the model could be compared with those of ventilation tests on the

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An investigation of Systems of Cooling a Hydro-alternator Using a Ventilation Model.

actual generator. The complete cooling system of the generator was modelled on the assumption that auto-modelling of the system was possible, that is that the resistance coefficient is independent of the Reynolds number. Investigations on the model fully confirm the validity of this assumption: for all tests on the model Euler's parameter remained independent of the speed of rotation of the model. In auto-modelling systems, to ensure physical similarity between the hydraulic processes in the model and in the actual machine it is sufficient that they should be geometrically and kinematically similar. The results of measurements of pressure and rate of air flow on the model recalculated to full scale are in good agreement with the results of tests on the actual generators. The results are compared in Table 1.

The model investigated is a ventilation model of a large generator made to a scale of one-fifth, geometrical similarity being maintained in the main parts. A picture of the model is given in Fig. 1, a diagram in Fig. 2 and illustrations of the stator and rotor in Figs. 3 and 4. The model was driven by a wound rotor induction motor of 55 kW. The model is described in detail; the arrangement of the fan blades is shown in Fig.5.

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An Investigation of Systems of Cooling a Hydro-alternator Using a Ventilation Model.

The model was investigated with open-cycle air-circuit which considerably simplified the test procedure without much affecting the results. The main object of the hydraulic investigation of the cooling system on the model was to obtain a physical picture of the operation of the system, particularly: to find out the distribution of air flow and pressure in the system ducts; to determine characteristics of the main head-producing parts of the system such as the fan and rotor and to investigate their inter-relationship; and to determine the stator characteristics.

Detailed consideration is then given to the operation of the fans which consist of centrifugal wheels with straight radial blades as shown in Fig.4 such as are installed on hydro-alternators of the Dneproges and other stations. The experimental characteristics of the centrifugal fans on the model are shown in Fig. 6. During the tests on a fan, the other fan and the rotor were put out of operation by appropriately blocking the air inlets. The results show that the total theoretical head of the fans under design conditions of operation is about 220 mm of water, the dynamic head at the fan outlet 125 mm of water, the loss of head is 75 mm of water and the useful static head

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of the fan is 20 mm of water. Most of the hydraulic losses consist of loss at the inlet of flow to the wheel. They result from the large angles of attack of the blades and the large inlet diameters. The curves in Fig. 7a show the relationship between the relative rate of flow at the inlet to the wheel and the inlet diameter at a given flow. It is shown that to increase the useful static head of the fan the blades should be bent round at inlet and the inlet diameter of the wheel should be reduced to the optimum value. The investigations on the model show that the static pressure beyond the centrifugal wheel continues to increase in the end winding chamber as shown in Fig. 8. This part of the system is then working as a guide vane apparatus in which the dynamic head of the rotating flow is partially converted into a static head. The greater the static pressure in the end winding chambers the greater the flow delivered to the inter-pole space of the model from the ends of the poles. Experimental characteristics of the rotor pole are shown in Fig. 10 which demonstrate the use of guide pieces to direct the air flow.

The operation of the rotor as a fan is then considered. The rotor may be considered as a combination of fans operating in

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An Investigation of Systems of Cooling a Hydro-alternator Using a Ventilation Model.

series and parallel. A diagram of the ventilating channels in the rim is shown in Fig. 11 which gives the experimental characteristics of the rotor with mean static head and flow through the screens. The characteristics which are obtained, together with visual observations, make it possible to analyse the operation of the rotor as a whole and of its component parts. At small rates of flow the rotor pressure is high and the quantity of air that flows out through the ends of the inter-pole faces is greater than the quantity flowing in, which corresponds to points to the left of the intersection of the curve on Fig. 11. At high rates of flow the quantity of air flowing out of the ends decreases which corresponds to that part of the rotor characteristic in Fig. 11 to the right of the intersection of the curves. These parasitic circulations cause additional power losses in ventilation and since it is hot air that is circulated they must impair the removal of heat from the machine. The distribution of static pressure in the gap along the model with combined operation of the rim channels and the ends of the pole is shown in Fig. 12. Investigations of pressure distribution in the gap show that it is non-uniform because of the delivery of air through the stator ducts in the presence of

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An Investigation of Systems of Cooling a Hydro-alternator Using a Ventilation Model.

the change of resistance coefficients of the stator as a function of the ratio of the mean speed of the air in the stator ducts to the speed of rotation of the air in the gap are given in Fig.13. The problem of reducing the resistance of the stator by altering the construction of the ducts is of interest. Curves of the mean velocity distribution at the outlet from the stator ducts are given in Fig.14. The curves show that the flow distribution through the stator ducts is not uniform around the model and moreover it is asymmetrical.

Special tests show that distribution of flow round the stator is determined, to a first approximation, by the distribution of static pressures in the gap and the asymmetry of flow around the stator is associated with differences between the characteristics of the upper and lower fans of the model and also with the asymmetry of the air ducts of the system.

As a result of the investigations it is possible to obtain a physical picture of the operation of the cooling systems of large hydro-alternators. The material obtained can serve as a basis for systematic work on the improvement of existing systems and for the development of design procedures for them.

Card 8/9 The following are the most promising directions of work:

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

110-4-1/25

AUTHORS: Polikovskiy, V.I., Doctor of Technical Sciences, Professor, Al'per, T.I., Engineer, Zemlyanoy, M.S., and Sergiyevskaya, T.G., Candidates of Technical Sciences.

TITLE: A New Method of Cooling Large Hydro-alternators(Novaya skhema okhlazhdeniya krupnykh gidrogeneratorov)

PERIODICAL: Vestnik Elektropromyshlennosti, 1958, No. 4, pp. 1 - 5 (USSR).

ABSTRACT: In designing hydro-alternators for 200 - 300 MW, improved cooling methods became necessary. At present, the fan effect of the rotor spider is not effectively used, nor are the centrifugal fans well designed.
The article describes a new construction in which the spaces between the arms of the rotor spider are partly enclosed, but apertures are left near the hub to entrain cooling air. Near the extremities of the arms, the shrouding stands away in the form of an inclined flange, leaving a circumferential space. This is divided by radial vanes and the passages so formed assist in drawing the cooling air centrifugally outwards and direct some of it across the ends of the rotor and stator coils. With this design the air-flow through the hydro-alternator is about 40% greater than that given by the usual type of fan. Performance characteristics of the old and new cooling arrangements are graphed in Fig.2.

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The new system is more effective because the lower relative air-speed at the air inlet (to the rotor) reduces the losses, so that the discharge pressure is greater. The effectiveness of the system depends on the position of the intake aperture; the position is chosen to give the minimum air velocity at the inlet for a given flow. Values are plotted in Fig.3. A design procedure for the new type of fan is given, with appropriate formulae. The flow round the ends of the winding is depicted in Fig.5.

Variants of the new system were tested. In particular, experiments were made with air entering the generator from only one side. Test results for this case, plotted in Fig.6, show that the performance is about the same as when entry is from both sides. It follows that when the inlet area is of the optimum value it does not matter whether intake is from one side or two. The main defect of existing ventilating systems is the large inlet diameters of the fans, which cause high losses. Other ways of overcoming this difficulty besides the one described are possible and are briefly mentioned.

The new method of ventilation was tried on one of the hydro-alternators of the Gor'kiy Hydroelectric Power Station (Gor'kovskaya GES) and comparative tests confirmed the correctness of the

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POLIKOVSKIY, V.I., doktor tekhn.nauk, prof.; SERGIYEVSKAYA, T.G., kand.tekhn.nauk

Operational features of axial fans in the cooling systems of large electrical machinery. Vest. elektroptom. 32 no.12:26-32 D '61. (MIRA 14:12)

(Electric machinery--Cooling)
(Fans, Electric)

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SERGIYEVSKAYA, T.G., kand.tekhn.nauk

Heat emission of the stator of an electrical machine. Vest. elektroprom. 33 no.11:4-14 N '62. (MIRA 15:11)
(Electric machinery--Cooling)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SLUGINOVSKAYA, T.G., kand. tekhn. nauk

Heat emission of the frontal connections of the stator winding of a hydrogenerator. Elektrotekhnika 36 no.5:12-14 My '65. (MIRA 18:5)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

POGODIN-ALEKSEYEV, G.I., doktor tekhn.nauk, prof.; SERGIYEVSKAYA, T.V. [deceased] kand.tekhn.nauk

Effect of microstructure on the development of reversible temper brittleness in low-carbon manganese steel. Trudy Sek.metalloved.i term.obr.met.NTO mash.prom. no.2:59-68 '60. (MIRA 14:4)
(Manganese steel--Metallography) (Tempering)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

137-58-5-8879

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 19 (USSR)

AUTHORS: Sergiyevskaya, Ye. M., Vol'skiy, A. N.

TITLE: To the Theory of Leaching Zinc out of Roasted Zinc Concentrates (K teorii vyshchelachivaniya tsinka iz obozhzhennykh tsinkovykh kontsentratov)

PERIODICAL: Sb. nauchn. tr. Mosk. in-t tsvetn. met. i zolota i VNITO tsvetn. metallurgii, 1957, Nr 26, pp 265-278

ABSTRACT: The dynamic method was employed to study the rate of dissolution of ZnO in H_2SO_4 solutions. The rate of dissolution of ZnO is determined by the diffusion rate when the concentration of H_2SO_4 exceeds 0.36 mole/liter, and by the rate of the chemical reaction itself when the acidity is less. The rate of dissolution decreases if the concentration of $ZnSO_4$ in the original solution is increased. The rate of dissolution is given as a mathematical function of rate of motion of the sulfuric acid solution. It is shown that at an H_2SO_4 concentration of 0.72 mole/liter and at temperatures between 20°C and 58°C the nature of the process is typically diffusional, the constant of the reaction rate being a linear function of temperature and the temperature coefficient being equal to 1.3. L. P.

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1. Zinc ores--Processing 2. Zinc--Separation

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001548120016-3

SOV/137-58-8-16713

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 69 (USSR)

AUTHORS: Sergiyevskaya, Ye.M., Vol'skiy, A.N.

TITLE: A Contribution to the Theory of the Leaching of Zinc From Burnt Zinc Concentrates. Kinetics of Dissolution of Copper Oxide in Sulfuric-acid Solutions (K teorii vyshchelachivaniya tsinka iz obozhzhennykh tsinkovykh kontsentratov. Kinetika rastvoreniya okisi medi v rastvorakh sernoy kisloty)

PERIODICAL: Sb. nauchn. tr. Mosk. in-t tsvetn. met. i zolota, 1957, Nr 27, pp 102-118

ABSTRACT: A dynamic method is used to study the influence of temperature and H_2SO_4 and $ZnSO_4$ concentrations upon the dissolution rate (DR) of CuO in H_2SO_4. It is established that the dependence of the DR of CuO upon the concentration of H_2SO_4 in the solution takes on the character of a process of adsorption and is subject to Langmuir's equation for adsorption: $v_{1\ hr} = 5.65\,[H^+]/(1 + 2.26\,[H^+])$. The temperature has a significant influence upon the DR of CuO in H_2SO_4. The temperature coefficient of the DR is 1.83-1.51. The DR of CuO in H_2SO_4 of

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A Contribution to the Theory of the Leaching of Zinc (Cont.)

elevated $ZnSO_4$ contents in the initial solution diminishes approximately in proportion to the increase in the $ZnSO_4$ contents of the solution. The energy of activation of the reaction of dissolution of CuO in H_2SO_4 is 10,260 ±257 cal/mole. The DR of CuO is monitored by the rate of adsorption of H^+ ions or molecules of water onto the surface of the CuO from the solution.

G.S.

1. Zinc--Processing 2. Copper oxide--Chemical reactions 3. Sulfuric acid--Chemical reactions

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