

SENDEKOVA, G.M., otv.red.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.;  
VORONINA, A.N., red.; GUREVICH, I.V., red.; ZASLAVSKIY, I.I.,  
red.; KOZLOV, P.M., red.; LARIN, D.A., red.; RAUSH, V.A., red.;  
SAMOYLOV, I.I., red.; SENDEKOVA, G.M., red.; SLADKOVA, Ye.A.,  
red.; STROYEV, K.F., red.; SCHASTNEV, P.N., red.; TUTOCHKINA,  
V.A., red.; ERDELI, V.G., red.

[Geographical atlas for the fourth grade] Geograficheski atlas  
dlia 4-go klassa. Moskva, Glav.uprav.geodez. i kartografii M-va  
geol. i okhrany nedr SSSR, 1960. 16 p. (MIRA 13:8)  
(Atlases)

SCHASTNEV, P.N.; TEREKHOV, P.G.

New textbook of the geography of the continents. Geog. v shkole 24  
no.5:32-36 S-0 '61. (MIRA 14:8)

(Geography--Textbooks)

SCHASTNEV, P.N.; CHERKES-ZADE, N.M., uchitel'nitsa; KORNEYEV, V., uchitel';  
AZAROVA, Ye.

Editor's mail. Geog.v shkole 24 no.6:68-71 M-D '61.

(MIRA 14:10)

1. 5-ya shkola g. Batumi (for Cherkes-zade). 2. Gnilit'skaya shkola  
Chernigovskoy oblasti (for Korneyev). 3. Starosta krayevedcheskoy  
organizatsii 1-oy sredney shkoly imeni Lenina, g. Buynaksk (for  
Azarova).

(Geography—Study and teaching)

SCHASTNEV, P.N.; TEREKHOV, P.G.; SMIRNOVA, N.P., red.; SAKHAROVA, N.V.,  
tekh. red.

[General geography; textbook for teachers' schools] Obshchee  
zemlevedenie; uchebnik dlia pedagogicheskikh uchilishch.  
3. izd., perer. Moskva, Uchpedgiz, 1954. 338 p. (MIRA 16:6)  
(Physical geography)

SOKOLOV, V.M. Primal uchastiye MYSHETSKAYA, Ye.N.; SHUROV, S.I., red.; BASHLAVINA, G.N., red.; BIBIK, A.Ye., red.; ZASLAVSKIY, I.I., red.; KONDRAT'YEV, B.A., red.; MYASISHCHEVA, Ye.I., red.; SOLOV'YEV, A. I., red.; STROYEV, K.F., red.; SCHASTNEV, P.N., red.; TANANKOVA, A.I., red.; TEREKHOV, N.M., red.; LOBZOVA, N.A., red.

[Atlas of Moscow Province] Atlas Moskovskoi oblasti. Moskva, 1964. 12 p. (MIRA 18:3)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.

SCHASTNEV, P.V.

Some remarks concerning statistical brittle strength. Izv.vys.ucheb.  
zav.;fiz. no.2:114-120 '60. (MIRA 13:8)

1. Sibirskiy fiziko-tekhnicheskii institut pri Tomskom gosuniversitete  
im. V.V.Kuybysheva.  
(Metals---Brittleness)

SCHASTNEV, P.V.; ZHIDOMIROV, G.M.

Semiempirical theory of isotopic superfine splitting in the  
electron paramagnetic resonance spectra of free radicals.  
Dokl. AN SSSR 153 no.1:151-153 N '63. (MIRA 17:1)

1. Institut khimicheskoy kinetiki i goreniya Sibirskogo  
otdeleniya AN SSSR. Predstavleno akademikom V.N. Kondrat'yevym.

SCHASTNEV, P.V.; ZHIDOMIROV, G.M.

Isotropic hyperfine splitting on a fluorine nucleus in electron  
paramagnetic resonance spectra of free radicals. Zhur. strukt. khim.  
5 no.6:839-844 N-D '64. (MIRA 18:4)

1. Institut khimicheskoy kinetiki i goreniya Sibirskogo otdeleniya  
AN SSSR, Novosibirsk.



ZHIDOMIROV, G.M.; SCHASTNEV, P.V.

Determination of the integrals of dipole-dipole hyperfine interaction of electron with nuclei. Zhur. strukt. khim. 6 no. 4: 655-656 J1-Ag '65 (MIRA 19:1)

1. Institut khimicheskoy kinetiki i gorennya Sibirskogo otdeleniya AN SSSR, g. Novosibirsk. Submitted May 27, 1965.

ZHIDOMIROV, G.M.; SCHASTNEV, P.V.

Hyperfine interaction of unpaired electrons with methyl group  
nuclei in  $\pi$ -electron radicals. Teoret. i eksper. khim. 1 no. 5:  
649-654 S-O '65 (MIRA 19:1)

1. Institut khimicheskoy kinetiki i goreniya  $\tau$ ibirskogo ot-  
deleniya AN SSSR, Novosibirsk. Submitted June 23, 1965.

SHUBTSOVA, I.G.; DMITRIYEVA, T.S.; SCHASTNEV, V.B.; GLIKMAN, S.A.

Intrinsic viscosity of pectin. Vysokom.sped. 5 no.1:135-138  
Ja '63. (MIRA 16:1)

1. Saratovskiy gosudarstvennyy universitet im. N.G.  
Chernyshevskogo. (Pectin) (Viscosity)

SCHASTNEVA, O. F.

"On the problem of tubercular sclerosis," Sbornik nauch. rabot, posvyashch.  
70-letiyu prof. Seppa, Moscow, 1948, p. 283-86

SO: U-3264, 10 April 1953, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949)

IL'INA, N.A.; SCHASTNEVA, O.F.

Unique case of rheumatic encephalitis. Trudy 1-go  
'63

MMI 24:13-17  
(MIRA 17:3)

SHASTNYM, A.I.

SCHASTNYM, A. I.

"Selective Systematization in the Functioning of the Cerebrum in Dogs." Cand Med Sci, Tbilisi Medical Inst, Tbilisi, 1954. (RZhBiol, No 3 Feb 55 )

SO: Sum No 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions.  
(14)

SCHASTNYI, A.I.

Selective system in the cerebral hemisphere functions in the dog.  
Dokl.AN SSSR 94 no.3:589-592 Ja '54. (MLRA 7:1)

1. Institut fiziologii im. I.P.Pavlova Akademii nauk SSSR.  
Predstavleno akademikom K.M.Bykovym.  
(Brain--Physiology) (Cerebral cortex)

Schastnyy, A. I.

USSR/Medicine - Neurology

Card 1/1 Pub. 22 - 46/47

Authors : Schastnyy, A. I.

Title : Dynamics of critical inhibition during gradual increase in the intensity of the conditional stimulant

Periodical : Dok. AN SSSR 98/5, 873-875, Oct 11, 1954

Abstract : The possibility of reaching critical inhibition, of the higher nervous activity of dogs, through gradual increase of the physical intensity of the conditional stimulant and whether this inhibition will go beyond the limits of physiological standards and cause pathological disturbances of the higher nervous activity, were investigated. The results are described. Six references: 5-USSR and 1-USA (1927-1949). Graphs.

Institution : Academy of Sciences USSR, The I. P. Pavlov Institute of Physiology

Presented by : Academician K. M. Bykov, June 21, 1954



SCHASTNYI, A.I.

Restoration of temporary cortical connections present in a latent condition. Fiziol.zhur. 42 no.10:844-848 0 '56. (MLRA 9:12)

1. Laboratoriya fiziologii i patologii vysshey nervnoy deyatel'nosti  
Instituta fiziologii im. I.P.Pavlova AN SSSR, Leningrad.

(REFLEX, CONDITIONED,

restoration of cortical temporary bonds in latent cond.  
(Rus))

SCHASTNYI, A.I.

Changes in the bioelectric activity of extremal muscles observed in dogs in the course of developing conditioned electrodefensive motor reflexes. Dokl.AN SSSR 107 no.2:350-351 Mr.'56. (MIRA 9:7)

1.Institut fiziologii imeni I.P.Pavlova Akademii nauk SSSR. Predstavle-  
no akademikom K.M.Bykovym.

(CONDITIONED RESPONSE)

USSR/Human and Animal Physiology (Normal and Pathological) T  
Nervous System. Higher Nervous Activity. Behavior.

Abs Jour : Ref Zhur Biol., No 6, 1959, 27069

Author : Schastnyy, A.I.

Inst : -

Title : Manifestation of a Selective Systemization in the Work of Large Hemispheres by Means of Substitution of Positive Conditioned Stimuli in Dog.

Orig Pub : Zh. vyssh. nervn. deyat-sti, 1957, 7, No 2, 278-284

Abstract : In 4 dogs, a system of conditioned salivary alimentary conditioned reflexes (ACR)-system A and system of defensive conditioned reflexes (DCR)-system B was worked out. One of the stimuli of system B (M<sub>120</sub>) was transformed from defensive into alimentary, after which the character of action of substituted defensive stimuli and electric current on ACR were observed. Inhibitory action of substituted conditioned stimuli from system B to

Card 1/2

USSR/Human and Animal Physiology (Normal and Pathological)  
Nervous System. Higher Nervous Activity. Behavior.

Abs Jour : Ref Zhur Biol., No 6, 1959, 27069

system A had a selective character (past DCR - M<sub>120</sub> was inhibited, other ACR were not inhibited). The application of a current of great power induced the decrease of the value of all ACR. In accordance with being further removed from the moment of action of the current, the value of ACR increased, approaching the initial value. The manifestation of selective system is explained by action of negative induction from a defensive center to the alimentary. -- I.A. Slavitskiy

Card 2/2

SCHASTNYI, A.I.

Trace conditioned reflexes to ultra-strong stimuli. Zhur. vys.  
nerv. deiat. 10 no.2:217-222 Mr-Apr '60. (MIRA 14:5)

1. Laboratory of Physiology and Pathology of Higher Nervous Activity,  
Pavlov Institute of Physiology, U.S.S.R. Academy of Sciences, Leningrad.  
(CONDITIONED RESPONSE)

SCHASTNYI, A.I.

Nervous mechanisms of complex behavior in anthropoid apes  
(Chimpanzees). Dokl. AN SSSR 139 no.3:763-766 JI '61. (MIRA 14:7)

1. Institut fiziologii im. I.P. Pavlova AN SSSR. Predstavleno  
akademikom V.N. Chernigovskim.  
(PRIMATES--BEHAVIOR) (CHIMPANZEES)

SCHASTNYI, A.I.; FIRSOV, L.A.

Physiological analysis of means of intercommunication in chimpanzees  
in a group experiment. Dokl. AN SSSR 141 no.5:1264-1266 D '61.  
(MIRA 14:12)

1. Institut fiziologii im. I.P. Pavlova AN SSSR. Predstavleno  
akademikom V.N. Chernigovskim.  
(CHIMPANZEES) (CONDITIONED RESPONSE)

SCHASTNYI, A.I.

Selective system in the function of the cerebral cortex in  
higher apes (chimpanzees). Trudy Inst. fiziol. 10:132-142'62  
(MIRA 17:3)

1. Laboratoriya fiziologii i patologii vysshey nervnoy deya-  
tel'nosti (zav. - F.P.Mayorov) Instituta fiziologii imeni Pav-  
lova AN SSSR.

SCHASTNYI, A.I.

Physiological mechanisms for determining the complex behavior of anthropomorphous monkeys (chimpanzees). Dokl. AN SSSR 149 no.4: 995-998 Ap '63. (MIRA 16:3)

1. Institut fiziologii im. I.P.Pavlova AN SSSR. Predstavleno akademikom V.N.Gernigovskim.  
(CHIMPANZEES) (PSYCHOLOGY, PHYSIOLOGICAL) (CONDITIONED RESPONSE)



SCHASTNYI, A.I.

Physiological mechanisms of inadequate motions. Nauch.soob.  
Inst.fiziol. AN SSSR no.3:146-148 '65.

Ultraparadoxal phase in the process of formation of differentiating  
inhibition in monkeys (capuchins). Ibid.:149-153

(MIRA 18:5)

1. Laboratoriya fiziologii i eksperimental'noy patologii  
vyshey nervnoy deyatel'nosti (zav. - F.P.Mayorov [deceased])  
Instituta fiziologii imeni Pavlova AN SSSR.

ACC NR: AP7002940

UR/0020/66/171/006/1454/1457

AUTHOR: Schastnyy, A. I.

ORG: Institute for Physiology im. I. P. Pavlov, Academy of Sciences SSSR (Institut fiziologii, Akademii nauk SSSR)

TITLE: Physiological analysis of "voluntary" behavioral acts of anthropoid apes (chimpanzees)

SOURCE: AN SSSR. Doklady, v. 171, no. 6, 1966, 1454-1457

TOPIC TAGS: chimpanzee, experimental animal, animal physiology, behavior pattern

ABSTRACT: The complex behavior of two chimpanzees, Lada and Bodo, was studied by the method of motor conditioned reflexes in the anthropoid division of the Institute for Physiology, AN SSSR, Koltushi (Institut fiziologii AN SSSR), to investigate the feasibility of analyzing the behavior of higher animals by Pavlov's methods. In a first series of tests, the animals learned by experience and trial and error during a process of inherent, tentative-exploratory reactions to assemble keys and to open the circular or square locks on chests, containing food or toys, respectively. In a second test series, an additional apparatus was used, containing in the first and third of three sections the keys to the food and toy sections of the first apparatus, respectively. The sections of the second apparatus were opened by a sequence of actions, involving activation of buttons and insertion of tokens into appropriate

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UDC: 591.51

ACC NR: AP7002940

openings. Associations between the arrangements of apparatus 1 and 2 and motor re- actions were established. Thus, a connection between visual and kinesthetic nervous cells and the motor center of the brain cortex was formed, and subsequently, a con- nection between the latter and one of the unconditioned centers of food or play. The animals learned in special experiments to go through the sequence of motions leading to food or toys, respectively, depending on excitation of the corresponding desire. The possibility of directing and predicting the behavior of apes proves that the studied physiological laws are actually the cause for the complex forms of "voluntary" actions of anthropoid apes. Paper presented by Academician V. N. Chernigovskiy  
17 March 1966.

SUB CODE: 06/ SUBM DATE: 17Mar66/ ORIG REF: 013 / ATD PRESS: 5113

Card 2/2

MIRONOV, S.A., doktor tekhn. nauk, prof.; KRIVITSKIY, M.Ya., kand. tekhn. nauk;  
SCHASTNYI, A.N., inzh.; pri uchastii: DUBOLAZOV, N.M., inzh.; SHCHEDRIN,  
A.Ya., inzh.; IFTINKA, G.A. red. izd-va; BOROVNEV, N.K., tekhn. red.

[Instructions for manufacturing large air-entrained concrete articles]  
Ukazaniia po izgotovleniiu krupnorazmernykh gazobetonnykh izdelii.  
Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit. materialam,  
1960. 30 p. (MIRA 14:6)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobeta, Perovo. 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Mironov). 3. Laboratoriya yacheistykh, legkikh i uskorenogo tverdeniya betonov Nauchno-issledovatel'skogo instituta betona i zhelezobeta Akademii stroitel'stva i arkhitektury SSSR (for Schastnyy, Krivitskiy) (Continued on next card)

MIRONOV, S.A., — (continued) Card 2.

4. Laboratoriya stroitel'nykh materialov Zapadno-Sibirskogo filiala Akademii stroitel'stva i arkhitektury SSSR (for Dubolazov). 5. Tsentral'naya nauchno-issledovatel'skaya laboratoriya Novosibirskogo sovnarkhoza (for Shchedrin)  
(Lightweight concrete)

KRIVITSKIY, M.Ya., kand.tekhn.nauk; SCHASTNYI, A.N., inzh.

Swelling and stability of an air-entrained concrete mix. Bet. i  
zhel.-bet. 8 no.5:222-224 My '62. (MIRA 15:6)

(Air-entrained concrete--Testing)

KRIVITSKIY, M.Ya., kand. tekhn. nauk; SCHASTNYI, A.N., inzh.

Some problems in the technology of gas concrete during the  
manufacture of large-sized products. Trudy NIIZHB no.32:218-  
227 '63. (MIRA 17:1)

KRIVITSKIY, M.Ya., kand. tekhn. nauk; SCHASTNYI, A.N., inzh.

Line deformations and moisture in gas concrete. Stroi. mat.  
10 no.6:40-page 3 of cover Je '64. (MIRA 17:10)



KRIVITSKIY, M. Ya.; MAKAROV, P.A.; SCHASTNYI, A.N.

Device for determining the change in moisture content of  
materials in the process of autoclave treatment. Zav. lab.  
30 no.11:1417-1418 '64 (MIRA 18:1)

1. Nauchno-issledovatel'skiy institut betona i zhelezobetona  
Gosstroya SSSR.

SCHASTNYI, N., inzhener-polkovnik; BICHENKO, I., polkovnik.

Develop the creative activity of inventors and efficient workers.  
Voen.vest. 36 no.5:58-62 My '56. (MIRA 9:8)  
(Military art and science)

SCHASTNYI, N.G., inzh.-polkovnik; KISELEV, A.M., podpolkovnik  
~~tskh.~~ sluzhby; SOLDATOV, A.S., inzh.-polkovnik;  
KOLENSKIY, L.Ya., inzh.-polkovnik; STEPANOV, I.P.,  
podpolkovnik; SMIRNOV, V.I., inzh.-kapitan 2 ranga;  
MOROZOV, B.N., red.

[Invention and innovation in the Armed Forces of the  
U.S.S.R.] Izobretatel'stvo i ratsionalizatsia v vooru-  
zhennykh silakh SSSR. Moskva, Voenizdat, 1964. 93 p.  
(MIRA 17:12)

KLIMANSKIY, V.A.; SPOROV, O.A.; DERGACHEV, I.S.; SCHASTNYI, S.A.

The condition of the lesser circulation in non-specific pulmonary  
fibrosis in children. *Cesk. pediat.* 20 no.3:383-385 Mr '65

ZYKOVA, A.S., SCHASTNYI, V.A., YEFREMOVA, G.P.

Determination of natural radioactive aerosols in the atmosphere.  
Gi. i san. 23 no.10:62-64 0 '58 (MIRA 11:11)

(AIR,

natural radioactive aerosols, determ. (Rus))

(RADIOACTIVITY,

natural radioactive aerosols in air, determ. (Rus))

SCHASTNYI Ye.I., konstruktor

KLTs-1 chain-belt conveyer. Ugol' Ukr. 3 no.6:35-36 Je '59.  
(MIRA 12:11)

1. Khar'kovskiy zavod "Svet shakhtera".  
(Donets Basin--Conveying machinery)

SCHASTNYI, Ye.I., inzh.; FERDMAN, Ye.I., inzh.

KPI-1 flexible apron conveyer. Ugol' Ukr. 4 no.9:35-36 S '60.  
(MIRA 13:10)

(Conveying machinery)

RYABKOV, A.I., inzh.; SCHAST'NIY, Ye.I., inzh.

Traction force transmission to the carrying belt of a KLTs-3  
belt-chain conveyor. Izv.vys.ucheb.zav.; gor.zhur. 8 no.11:  
110-14 '65.

(MJRA 19:1)

1. Khar'kovskiy institut gornogo mashinostroyeniya, avtomatiki  
i vychislitel'noy tekhniki. Rekomendovana kafedroy gornykh  
mashin i rudnichnogo transporta. Submitted Feb.25, 1965.



GRACHEV, L.I.; SCHASTNYI, Ye.N., inzh.

Measures for increasing the operational reliability of a contact network. Elek.i tepl.tiaga 6 no.12:13-14 D '62. (MIRA 1682)

1. Starshiy inzh. sluzhby elektrifikatsii i energeticheskogo khozyaystva Yuzhno-Ural'skoy dorogi (for Grachev).  
(Electric railroads—Wires and wiring)

COUNTRY : Poland  
CATEGORY :  
ABS. JOUR. : RZKhim., No. 22 1959, No. 79246  
AUTHOR : Schatt, W.  
INST. : Not given  
TITLE : Results from Recent Studies on Alumina-Based Cermets  
ORIG. PUB. : Przegląd Mech, 18, No 5, 131-135 (1959)  
ABSTRACT : A review of recent work done at the Institute for Materials Testing (Dresden, GDR) on the development of the production technology and on the testing cermets containing (in wt %):  $Al_2O_3$  1.5-90, Cr 10-98.5. Aluminothermally produced metallic Cr ( $< 40 \mu$ ) and technical  $Al_2O_3$  ( $< 5 \mu$ ) are ground together in steel mills for 50-300 hrs in gasoline ['benzin']; the ground product contains about 2% Fe. The powder is compacted in hydraulic presses under a pressure of 1,000-

CARD: 1/5

COUNTRY : Poland  
CATEGORY :  
ABS. JOUR. : RZKhim., No. 22 1959, No. 79246  
AUTHOR :  
INSTR. :  
TITLE :

ORIG. PUB. :

ABSTRACT : the shrinkage is 10-14% when the last-named sintering process is used, products of improved properties are obtained, except for impact strength. During the sintering some solid solution of  $Cr_2O_3$  in  $Al_2O_3$  is formed, the principal result being the formation of an  $Al_2O_3$  skeleton held together by Cr (or vice versa). Data are given on the structure, resistivity, mechanical properties, and heat resistance of  $Al_2O_3 + Cr$  cermets as a function of Cr content. Cermets containing 10-30 and

CARD: 3/5

COUNTRY : Poland  
CATEGORY : H-13  
ABS. JOUR. : RZKhim., No. 22 1959, No. 79246  
AUTHOR :  
TEST. :  
TITLE :

ORIG. PUB. :

ABSTRACT : containing 10% Cr. The cermets tested were found to have a rather low impact strength, 15-25% of the impact strength of cast iron. In the present state of the technology and knowledge concerning the properties of  $Al_2O_3$ -Cr cermets, only two possible fields of application can be indicated: rods exposed to high temperatures and protective sleeves for immersion thermocouples.

S. Glebov

CARD: 5/5

SCHATTELES, T.

"Studies on statistics. Work of the Second Scientific Conference  
of Statistics, November 29-December 1, 1962. Probleme econ 17  
no.11:144-148 N '64.

SCHATTINGER, Bohuslav, inz. (Ceske Budejovice)

Slats for making pencils. Drevo 17 no.3:83-85 Mr '62.

SCHATTELESZ, T.

Possibility of constructing balances of connections among branches  
with dynamic series. Problem econ 16 no.2:134-147 F '63.

SCHATZ, M.

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and  
Their Applications. Natural and Synthetic Rubber.

J-3

Abs Jour: Ref Zhur-Khimiya, 1958, No 1, 3200.

Author : B. Meissner, M. Schatz

Inst :

Title : Statistical Methods for Rubber Compounding

Orig Pub: Chem. prumysl, 1956, 6, vyp. 2, 67-70.

Abstract: The principal methods were considered which are used in developing formulae for rubber compounds: the classical method, the factorial method, the method of squares. The latter is applicable to a large number of variables, is characterized by accuracy, and permits the determination of the effect which individual factors have quantitatively. Practical examples of calculations are

Card : 1/2



## Industrial Use of Silicones

CZECH/3510

hydraulic fluids, oils, lubricants and pastes are treated extensively and the role of silicones in medicine, pharmaceuticals and cosmetics production is discussed. The use of silicone resins in the plastics industry is also treated. No personalities are mentioned. References are given at the end of each chapter.

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Card 2/7

SCHATZ, Miroslav

Silicone rubber. I. Preparation of polydimethylsiloxane. II. Properties of dimethylsiloxane rubber. Sbor chem tech 4 no.2:437-472 '60.  
(EEAI 10:9/10)

1. Katedra technologie plastických hmot, Praha.

(Silicone) (Rubber) (Siloxanes)

43764

S/081/62/000/023/106/120  
B101/B186

53700

AUTHORS: Matoušek, Vladimír, Schätz, Miroslav, Bažant, Vladimír  
TITLE: Method of producing thermoplastic polyorganosiloxanes  
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 728, abstract  
23P399 (Pat. CzSSR 95379, May 15, 1960)

TEXT: Thermoplastic polyorganosiloxanes having the composition  $(R)_x(R')_ySiO_{(4-x-y)/2}$  are obtained by hydrolyzing the mixture of the corresponding chlorosilanes or alkoxy silanes. R = H, F, or a monovalent aliphatic radical; R' is an organic radical which contains  $\geq 6$  C atoms, preferably also halogen atoms, and which has a noticeable steric effect,  $x/y < 1$ , and  $x+y$  is a number between 0.5 and 1.9. After hydrolysis and removal of the solvent, solid brittle resins are obtained which are soluble in nonpolar and in most of the polar solvents. These polymers (PM) are thermoplastic because of the steric effect of the substituent, which prevents further polycondensation of the solid PM. The PM are cured by the usual curing agents, e.g. triethanol amine. Products with good

Card 1/2

Method of producing thermoplastic... S/081/62/000/023/106/120  
B101/B186

mechanical, electrical, and thermal properties are obtained. Example:  
112 g  $\text{CH}_3\text{SiCl}$  and 475 g  $\text{C}_6\text{H}_5\text{SiCl}_3$  are mixed with 500 ml toluene. In the  
course of mixing, 1000 ml water, 500 ml toluene, and 500 ml ether are  
gradually added. After removing the aqueous layer, the mixture is washed  
with water until attaining a neutral reaction. Then, the ether and  
toluene are distilled off, and the molten PM of the composition  
 $(\text{CH}_3)_{0.25}(\text{C}_6\text{H}_5)_{0.75}\text{SiO}_{1.5}$  is poured into a bowl. [Abstracter's note:  
Complete translation.] X

Card 2/2

HASIK, Jan; IMHOF, Peter; STEINMANN, Bernhard; SCHAUB, Hans

Results of cardiological examination of patients with bilateral paralysis of the lower extremities following the administration of noradrenalin and hypertensin. Pol. tyg. lek. 18 no.41:1509-1513 7 0 '63.

1. Z II Kliniki Chorob Wewnetrznych AM w Poznaniu; kierownik: prof. dr Jan Roguski, Z Oddzialu Wewnetrznego C.L. Loryhaus (Inselspital) Bern; kierownik: prof. dr Bernhard Steinmann).  
(PARALYSIS) (LEG) (NOREPINEPHRINE)  
(ANGIOTENSIN) (HEART FUNCTION TESTS)  
(PHARMACOLOGY)

BINKA, J., inz., CSc.; SCHAUER, A., inz.

Thermal longitudinal expansiveness of some plastics and its importance for building. Stavivo 41 no.7:250-252 JI '63.

1. Vyzkumny ustav stavebni vyroby, Praha.

BENKA, J., inz., CSc., SCHAUER, A., inz.

Lightened plastics in insulation technology. Stavivo 41 no.9:  
336-340 S'63.

1. Vyzkumny ustav pozemnich staveb, Praha.

SCHAUER, A., inz.

Cements for sealing outer joints of panel constructions.  
Stavivo 42 no. 3:110 Mr '64.



BINKA, Jiri, inz. CSc.; SCHAUER, Antonin, inz.

Porofen, a new heat insulation material. Poz stavby 12  
no. 3: 126-128 '64.

1. Research Institute of Building, Prague.

BINKA, Jiri, inz. CSc.; SCHAUER, Antonin, inz.

Gluing of polyester laminated glass. Poz stavby 12 no.9:374-377  
'64.

1. Research Institute of Building Construction, Prague.

SRB, P., inz.; SCHAUER, A. inz.

Thermal and sound insulation in Great Britain. Stavivo 42 no.4:  
152-154 Ap '64

SCHAUER, A., inz.

Formation of porous concrete macrostructure. Stavivo 42 no.7:  
270-277. J1'64

SCHAUER, F.

Secretion of the stomach after irradiation with 700 r.  
Bul sc Youg 7 no.1/2:13 F-Ap '62.

1. Institut "J. Stefan," Ljubljana.

\*

SCHAUER, P.; LIKAR, M.

Preparation of haemagglutinins from human embryonic cell culture fluids infected with herpes simplex virus. Bul sc Youg 9 no.1/2: 10 F-Ap '64.

1. Institute of Microbiology, University of Ljubljana, Ljubljana.

CZECHOSLOVAKIA

BOUBLIK, T; DVORAK, K; HALA, E; SCHAUER, V.

Institute of Physical Chemistry of the Czechoslovak Academy  
of Sciences, Prague (for all)

Prague, Collection of Czechoslovak Chemical Communications,  
No 7, 1963, pp 1791-1802

"Liquid-Vapor Equilibrium in Systems of Electrolytic  
Components II. System  $\text{NH}_3\text{-SO}_2\text{-SO}_3\text{-H}_2\text{O}$  at 50, 70  
and 90° C."

HALA, E.; BOUBLIK, T.; DVORAK, K. [deceased]; SCHAUER, V.

Liquid-vapor equilibrium in systems of electrolytic components.  
Pt. 1-2. Coll Cz Chem 28 no.7:1780-1803 J1 '63.

1. Institute of Physical Chemistry, Czechoslovak Academy of  
Sciences, Prague.



SCHAUP, S.

"When Is An Invention Considered A New One?" p. 81. (Nova Proizvodnja, Vol. 4, no. 1, Apr., 1953, Ljubljana.)

SO: Monthly List of ~~Accessions~~ East European Vol. 2, No. 9, Library of Congress, September 1953, Uncl.

SCHWARTZ

A reaction of phenolic hydroxy groups with the aid of methanesulfonyl groups and the application of this method to a new preparation for trophloroglutinol. The reaction mechanism of chlorosulfonation and of "mesylation".

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447520010-7

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001447520010-7"

SCHAWARTZ, JOZSEF

112

A new synthesis of 1,2,3,5-tetrahydroxybenzene and the preparation of its derivatives. I. Geza Zemplén and József Schawartz (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 3, 237-99 (1953) (in German).—1,2,3,5-C<sub>6</sub>H<sub>3</sub>(OH)<sub>4</sub> (I) was prepd. from *p*-C<sub>6</sub>H<sub>4</sub>(OH)<sub>2</sub> 40-46% in over-all yield. The tetrakis(methanesulfonate) (II) of I treated with HNO<sub>3</sub>-oleum at 0° gave the 4-O<sub>2</sub>N deriv. (III) of II. The tetracetate (IV) of I gave with Br the di-Br deriv. (V). 2,4,6-(O<sub>2</sub>N)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>OH reduced with Sn and HCl yielded 80% 2,4,6-(H<sub>2</sub>N)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>OH·2HCl (VI), pale yellow crystals. Dry VI (15 g.) in 200 cc. boiled H<sub>2</sub>O refluxed 5 hrs. in a stream of CO<sub>2</sub>, the resulting pale yellowish-brown soln. concd. in a stream of H<sub>2</sub> to 35 cc., let stand 2 hrs. in ice, and the resulting cryst. deposit filtered off and dried *in vacuo* gave 8.5 g. mixt. of aminotetrahydroxybenzene (VII) HCl salt and NH<sub>4</sub>Cl, from which the VII could be isolated only by acetylation, which also gave addnl. tri- and tetra-Ac derivs.; the hydrolysis of the Ac derivs. proceeded only very slowly and did not yield solid products. The mixt. of VII·HCl and NH<sub>4</sub>Cl from a similar run dissolved in 120 cc. 1% HCl (previously freed from air by boiling), the soln. heated 10 hrs. in a sealed tube at 155-60°, the mixt. filtered, the filtrate concd. in a H stream to 20 cc., treated with 10 drops 20% aq. Pb(OAc)<sub>2</sub>, filtered, the filtrate treated with H<sub>2</sub>S, filtered, extd. with five 70-cc. portions of Et<sub>2</sub>O, the ext. dried with Na<sub>2</sub>SO<sub>4</sub>, evapd. to dryness in a H stream, the brown tacky residue (1.18 g.) refluxed 15 min. with 1.5 g. NaOAc and 4.5 cc. Ac<sub>2</sub>O, the mixt. cooled, dild. with 15 cc. cold H<sub>2</sub>O, and the ppt. washed with four 5-cc. portions of H<sub>2</sub>O and dried *in vacuo* over H<sub>2</sub>SO<sub>4</sub>, gave 2.01 g. IV, m. 93-7°, which,

decolorized with C in 10 cc. EtOH and recrystd. 3 times, yielded 1.23 g. pure IV, colorless needles, m. 105°. *p*-C<sub>6</sub>H<sub>4</sub>(OAc)<sub>2</sub> (50 g.), m. 121-1.5° (prepd. in 97% yield and dried *in vacuo* at 30-40°), added slowly during 1 hr. with stirring to 300 g. HNO<sub>3</sub> at -3° to 5°, the mixt. stirred 10 min. at 0°, poured into approx. 1 l. crushed ice, and the resulting yellow cryst. ppt. washed with four 50-cc. portions of cold H<sub>2</sub>O and dried *in vacuo* at 30-40° gave 40.2 g. (84.8%) crude 4,2,6-AcO(O<sub>2</sub>N)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>OH (VIII), m. 94-5°, which recrystd. from 10 vols. 95% EtOH yielded with 15-17% loss pure VIII, m. 95.8-96°. VIII (37.65 g.), 12 g. SnCl<sub>2</sub>, 156 g. granulated Sn (or Sn filings), and 570 cc. concd. HCl heated slightly with frequent shaking until, after about 10 min., the reduction started with foaming, the mixt. heated 45 min. to gentle boiling after the foaming had ceased, cooled, filtered through glass wool, treated 0.5 hr. at 0° with a strong stream of HCl, cooled 2.5 hrs. in ice water, and the cryst. deposit filtered off through a glass filter, washed with three 15-cc. portions of concd. HCl, and dried *in vacuo* over NaOH gave 30.4 g. (92%) 2,6,1,4-(H<sub>2</sub>N)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>(OH)<sub>2</sub>·2HCl (IX), which darkened within 2-3 days in air, but could be kept without decomn. *in vacuo*. IX (7.5 g.) in 150 cc. 1% HCl (previously boiled) heated 18-14 hrs. in a sealed tube at 155-60° in the presence of 50-60 mg. Sn foil, the brown mixt. cooled, filtered, concd. to 35 cc. *in vacuo* in a H stream on the water bath, the concentrate extd. with seven 100-cc. portions of Et<sub>2</sub>O, the ext. dried with Na<sub>2</sub>SO<sub>4</sub>, the Et<sub>2</sub>O distd. off in a H stream, and the solid residue powdered gave 3.5386 g. (70-77.2%) I, m. 163-4°, oxidized readily in air and preferably stored as IV, from which it could easily be liberated with HCl in

GÉZA ZEMPLEN

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MeOH. I (3.85 g.), m. 163-4°, 5.45 g. NaOAc, and 15.2 g. Ac<sub>2</sub>O refluxed 16 min., the mixt. cooled, and the resulting brownish-gray solid ground with 55 cc. H<sub>2</sub>O, washed with four 8-cc. portions, and dried *in vacuo* at 50-60° yielded 7.77 g. (92.6%) IV, m. 101°. Crude IV (7.70 g.) in 40 cc. abs. EtOH treated with 0.4 g. C, filtered hot, the filtrate refrigerated 10 hrs., and the cryst. deposit washed with three 4-cc. portions of abs. EtOH and dried *in vacuo* over concd. H<sub>2</sub>SO<sub>4</sub> gave 6.32 g. pure IV, almost colorless crystals, m. 104-5°. IV demethylated with HCl in MeOH and the resulting I pptd. from its soln. in EtOAc with CHCl<sub>3</sub> gave pure I, m. 165°. I (1 g.) in 1.5 cc. dioxane heated 1.5 hrs. with 1.2 g. Br in 1.5 cc. CS<sub>2</sub> on the water bath, the soln. cooled, poured into 20 cc. cold H<sub>2</sub>O, let stand overnight, and the resulting solid washed with three 1-cc. portions of 95% EtOH and dried gave 0.65 g. (43.4%) crude V, m. 155-7°, which, recrystd. from 8 cc. 95% EtOH with C, cooled 5 hrs. in ice water, washed with three 1-cc. portions of EtOH, and dried *in vacuo* over P<sub>2</sub>O<sub>5</sub> yielded 0.41 g. pure V, m. 153°, unstable and decompd. within 2 months to a brownish black tacky mass. I (1 g.) added during 15 min. with stirring to 5 cc. 98% HNO<sub>3</sub> at -5°, and the brownish red mixt. let stand 40 min. at 0-5° and poured on 40 cc. crushed ice gave 30-50 mg. oil which decompd. completely on standing. I (0.5 g.) in 1 cc. glacial AcOH treated within 5 min. at 0-5° with 2 cc. glacial AcOH and 1 cc. 98% HNO<sub>3</sub>, the resulting red-brown soln. let stand 40 min. at -3° to 0°, poured into 20 cc. crushed ice, and the solid ppt. filtered after 0.5 hr., washed with three 2-cc. portions of cold H<sub>2</sub>O, and dried *in vacuo* yielded 0.42 g. crude recovered I, pale yellow powder, m. 93-5°, recrystd. twice from abs. EtOH, m. 105°. Crude I (1 g.), m. 164-5°, in 15 cc. dry pyridine treated during 5 min. dropwise, with shaking, with 5 g. MeSO<sub>2</sub>Cl at -3°, the mixt. refrigerated 65 hrs., dild. with

140 cc. ice water, warmed slightly, cooled again to 0°, adjusted with concd. HCl to pH 3, and the resulting solid filtered off after 0.5 hr., washed with two 5-cc. portions of 95% EtOH, and dried *in vacuo* at 50° gave 3.2 g. (100%) II, slightly yellowish brown solid, m. 133-8°; the crude product dissolved in 12 cc. hot 50% AcOH, the soln. treated with C, refrigerated 12 hrs., and the resulting cryst. deposit washed with five 3-cc. portions of 95% EtOH and dried *in vacuo* at 50° gave 2.57 g. II, m. 147°, which, recrystd. from 4 vols. Me<sub>2</sub>CO, yielded pure II, colorless crystals, m. 162.5°, easily sol. in warm glacial AcOH and Me<sub>2</sub>CO, slightly sol. in CHCl<sub>3</sub>, practically insol. in cold EtOH, sol. in 200 vols. hot EtOH. Finely powd. II (6.1270 g.), m. 152°, added within 10 min. with stirring at -5° to 1 cc. 98% HNO<sub>3</sub>, the soln. poured immediately on 15 cc. crushed ice, and the solid ppt. washed with three 2-cc. portions cold H<sub>2</sub>O and dried gave 0.1310 g. recovered II, m. 150°. II was recovered unreacted when treated similarly 0.5 hr. at -3° to 0° with HNO<sub>3</sub>. II (0.1912 g.), m. 152°, added with stirring at -5° to 2 cc. 100% HNO<sub>3</sub> and 2 cc. 20% oleum, the mixt. let stand 20 min. at 0°, poured on 30 cc. crushed ice, and the pale yellow ppt. washed with five 0.5-cc. portions of H<sub>2</sub>O and dried *in vacuo* yielded 0.1948 g. (93.5%) crude III, m. 147.5-8.5°, which, recrystd. from 2.7 cc. 50% hot AcOH with C, gave 0.1470 g. pure III, pale yellow solid, m. 148.5-49°, also obtained when the mixt. was kept 75 min. at 40-5°. III (0.1192 g.), m. 148°, added within 15 min. with stirring to 1 cc. 100% HNO<sub>3</sub> and 1 cc. 60% oleum at -5°, the mixt. let stand 20 hrs. at 0°, sepd. into 2 parts, 1 part heated 4 hrs. at 75-80°, poured on 10 cc. ice, and the ppt. washed and dried gave 0.0421 g. recovered III, m. 148°; the other part of the mixt. let stand 7 days at 0°, heated 4 hrs. at 75-80°, and worked up in the usual manner gave only 0.0418 g. recovered III, m. 148°.

P. W. Hoffmann

SCHWARTZ, J.

HUNG

Acylation by the methanesulfonyl (mesyl) group. II. Steric hindrance of the mesyloxy group. Preparation of dinitrochloroglucinol. J. Ladik and J. Schwartz (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hungar.* 8, 290-312 (1955) (in German) (English summary); cf. C.A. 49, 1639g. The spatial structures of dimesyl ester of ricoleinol (I), trimesyl ester of phloroglucinol (II), the mononitro deriv. (III) of II, and the hypothetical dinitro (IV) and trinitro (V) derivs. of II are calcd. from values of bond lengths, valence angles, and at. radii, and the results are shown in tables of max. overlapping values and diagrams of models of I-V (cf. Hriegleb, C.A. 44, 7789g). It is shown for III that a 0° deformation of the C-C-O valence angle, by which the OSO<sub>2</sub>Me (mesyl) group is moved away from the NO<sub>2</sub> group, a similar 0° deformation of the corresponding valence angle of the NO<sub>2</sub> group, a 90° rotation of the NO<sub>2</sub> around the C-N bond out of the plane of the benzene ring, and a 70° rotation of the mesyl group around the C-O bond result in almost complete avoidance of overlapping, with room for all 3 substituents. By a similar rotation and deformation of the valence angle of a 2nd mesyl group, a 2nd NO<sub>2</sub> group with similar valence angle deformation and 90° rotation around the C-N bond has available space (with slight overlapping) for the formation of IV. Even V is shown possible, after similar valence angle changes and rotations of the 3rd mesyl and NO<sub>2</sub> groups. Since rotations of the groups are sterically hindered, introduction of even the 1st NO<sub>2</sub> group into II requires more energetic conditions than does the nitration of the triacetate of phloroglucinol; and expt. confirms this conclusion. Adds. of 2.36 g. finely

OVER H 81

J. LADIK

powd. II at 0° during 10 min. to 20 ml. HNO<sub>3</sub>, sp. gr. 1.61, and 10 ml. 30% fuming H<sub>2</sub>SO<sub>4</sub>, the mixt. held 10 min. at 40°, cooled to room temp., and poured out to hex (20 times its vol.), yielded 2.48 g. (83.5%) crude IV, m. about 123°; recrystd. first from hot 50% AcOH and then from aq. Me<sub>2</sub>CO gave 0.58 g. pure IV, m. 120°. Under these conditions no V resulted, probably not only because of steric hindrance, but also because the aromatic ring is strongly deactivated by the electron-attracting substituents already present. IV (1.32 g.) in 10 ml. Me<sub>2</sub>CO, treated with 0.5 ml. 2.5N NaOH, refluxed 10 hrs. at 95° on a H<sub>2</sub>O bath; evapd. *in vacuo* to dryness, the remaining solid Na salt dissolved in 8 ml. H<sub>2</sub>O and acidified with 2 ml. concd. HCl, yielded 0.512 g. (70%) crude dinitrochlorogenicinol (VI), shrinkage temp. 159°, m. about 193°; recrystd. from H<sub>2</sub>O gave 0.102 g. pure VI, m. 207°. Absorption curves between 200 and 600 m $\mu$  are shown for VI, and for comparison, mononitro- and trinitrochlorogenicinol. 2/2

H. S. French,...

SCHAWARTZ, J.

Remark about 2, 5-dihydroquinone. p. 239.

ACTA CHIMICA. (Magyar Tudományos Akadémia) Budapest, Hungary. Vol. 20,  
No. 2, 1959.

Monthly list of East European Accessions, (EEAI) LC, Vol. 9, No. 1, 1960.

Uncl.



SCHAWARTZ, J.

1  
 Acylation with methanesulfonyl chloride. III. The  
 mesylates of *O,O*-dinitrophenol deriva. I. Schwartz. *Acta*  
*Chim. Acad. Sci. Hung.* 20, 415-18 (1959) (in English); cf.  
*C.A.* 49, 11583g. — 2,6,1,4-(O<sub>2</sub>N)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>(OH)<sub>2</sub> (0.206 g.) in 3  
 ml. abs. C<sub>6</sub>H<sub>6</sub>N was treated with 0.1 ml. MeSO<sub>2</sub>Cl (I) 10 min.  
 at 0° and dild. with H<sub>2</sub>O to ppt. yellow mono-mesyl ester  
 (II), m. 129-30° (75% aq. Me<sub>2</sub>CO). Treating II in 3 ml.  
 abs. C<sub>6</sub>H<sub>6</sub>N 4 min. with 0.14 g. I at 0°, dild. with 5 ml. ice  
 H<sub>2</sub>O, and recrystg. from 3.2 ml. 50% Me<sub>2</sub>CO gave 0.04 g.  
 2,6,1,4-(O<sub>2</sub>N)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>(OSO<sub>2</sub>Me)<sub>2</sub> (III), m. 160°. III was formed  
 in 36.6% yield after 3 min. and could not be isolated  
 after 10 min. 2,6,1,4-(O<sub>2</sub>N)<sub>2</sub>(HO)C<sub>6</sub>H<sub>3</sub>OAc (IV) (0.484 g.)  
 in 12 ml. abs. C<sub>6</sub>H<sub>6</sub>N was treated with 0.3 ml. I at 0°. Dilg.  
 with ice H<sub>2</sub>O after 10 min. pptd. an oil which solidified to  
 orange-red crystals. Recrystn. from 4 ml. 25% aq. Me<sub>2</sub>CO  
 gave 2,6-dinitro-4-hydroxyphenylpyridinium methanesul-  
 fonate, m. 159°. 2,6,1,3,5,4-Cl<sub>2</sub>(MeO)(O<sub>2</sub>N)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>OH in 5  
 ml. abs. C<sub>6</sub>H<sub>6</sub>N was treated 5 min. with 0.26 g. I at -4°.  
 Working-up as before gave the methanesulfonate, m. 171°.  
 (75% aq. Me<sub>2</sub>CO). IV in Et<sub>2</sub>O-dioxane gave with CH<sub>3</sub>N<sub>3</sub>  
 the Me ether (V), m. 68°. Boiling V in MeOH with HCl  
 gave 4-HO compd. (VI), m. 152°. VI at 0° with I 18 hrs.  
 gave methanesulfonate (VII), m. 100° (70% aq. Me<sub>2</sub>CO).  
 Refluxing 0.58 g. VII with 3.1 g. Br in glacial AcOH 10 hrs.  
 in the presence of 20 mg. Fe filings gave after pouring into  
 20 ml. ice a ppt. which recrystd. from 50% aq. MeOH and  
 1.8 ml. Me<sub>2</sub>CO gave 3,1-Br(HO) compd., m. 128°.  
 Henry Kaur

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-99(NB)

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0

SCHAWARTZ, J.

Distr: 4E3b/4E3d

~~✓ Action of bromine on 2,6-dinitrohydroquinone-4-acetate.  
A new formation of tetrabromo-*p*-benzoquinone. J.  
Schawartz (Tech. Univ., Budapest, Hung.): *J. Indian  
Chem. Soc.* 36, 288(1959).—A soln. of 2.4 g. 2,6-dinitro-  
hydroquinone-4-acetate in 15 ml. AcOH was refluxed with  
6.4 g. Br for 3 hrs. while being irradiated with a Hg lamp.  
Addn. to 120 ml. of H<sub>2</sub>O yielded 3.72 g. tetrabromo-*p*-ben-  
zoquinone, m. 300° (dioxane). Ester H. Mark~~

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2

CAK

SCHAWLOW, Arthur L.

Optical masers. Fiz szemle 11 no.9:263-270 S '61.

1ST AND 2ND ORDERS      PROCESSES AND PROPERTIES INDEX      4RD AND 4TH ORDERS

*CR*

Hydrogen-ion concentration. G. SCHAY. *Kivolt. Kivoltinykh 31, 187-222*  
(1928).—A general description. S. S. DE FINÁLY *2*

ASACSLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS      4RD AND 4TH ORDERS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

LIST AND / OR ORDERS      PROCESSES AND PREFERENCES INDEX      INFO AND OTHER ORDERS

15

**Examination of tar-oil sprays for fruit trees. Géza Schay. *Kisérletügyi Közlemények* 43, 131-3(1940).**  
 Titill a 50 cc. sample in an Engler flask to 270°. Phenols and org. bases can be detd. in the distillate by shaking it with a soln. of NaOH or H<sub>2</sub>SO<sub>4</sub>. Dissolve the residue in water and sep. the emulsion by adding concd. NaOH soln. and alc. The high-boiling fractions can be extd. by ether. The extd. residue contains the emulsifier and may be analyzed. S. S. de Pintó

A.S.H. S.E.A. METALLURGICAL LITERATURE CLASSIFICATION

1226 43-131

031131 240

03.131 020 077 431

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LK LL LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QP QQ QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UU UV UW UX UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VU VV VW VX VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WU WV WW WX WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YU YV YW YX YY YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZU ZV ZW ZX ZY ZZ

PROCESSES AND PROPERTIES INDEX

Catalysis. III. Adsorption in catalysis. Géza Schay. Magyar Kém. Lapok 3, 130-41, 154-7 (1947). IV. Heterogeneous catalysis. 1944, 167-72. --General discussion István Földy with 13 references.

A. S. I. A. METALLURGICAL LITERATURE CLASSIFICATION

METALLURGY

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

PROCESSED AND REPRODUCTION INDEX

2

The catalytic decomposition of ammonia on copper and platinum surfaces. (Géza Schay: *Hung. Acta Chim.* 1, No. 3, 1-6(1948). --The usual explanation of the rate law of  $\text{NH}_3$  decompn. seems to be incorrect. It emphasizes that the decompn. is truly unimol. in the weakly adsorbed  $\text{NH}_3$  layer, whereas the  $\text{H}_2$  is so strongly adsorbed that it covers practically the whole surface and leaves very little free space for the adsorption of  $\text{NH}_3$ . Reasons for considering this rate law incorrect are: (1) As a consequence of atomic adsorption the Langmuir adsorption isotherm of  $\text{H}_2$  has the form  $a = a_0 \sqrt{p} / (\sqrt{b} + \sqrt{p})$  and consequently, by the usual argument, the square root of the  $\text{H}_2$  pressure should be placed in the denominator of the decompn. rate law. (2) Taking in account the heat of activation of the decompn. (46 cal. on Cu and 44 cal. on Pt surfaces) no unimol. mechanism which could give rise to a first-order rate law is possible on energy grounds. In order to avoid these difficulties it is proposed that the basic picture (according to which the decompn. takes place in the weakly adsorbed  $\text{NH}_3$  layer and is retarded by the strongly adsorbed  $\text{H}_2$ ) can be retained, but it must be completed by the following: (1) Similarly to the adsorption of  $\text{H}_2$ , the  $\text{NH}_3$  occupies 2 adjacent places when adsorbed, and thus its mol. becomes anchored by 2 of its H atoms, the remaining NH radical pointing away from the surface. (2) The decompn. is the reaction of two such neighboring radicals forming  $\text{N}_2$  and  $\text{H}_2$  and leaving 4 adsorbed H atoms on the surface. This mechanism seems to be quite satisfactory both from the kinetic and the energy points of view.

István Finály

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Compounds of rubber and resorcinol-formaldehyde resin.  
Zoltán Bruchner and Géza Schay (Research Lab., Rubber  
Ind., Budapest, Hung.). *Acta Chim. Hung.* 1, 169-7  
(1961) (in English).—When a mixt. of crushed about 1000,  
resorcinol 184,  $(\text{CH}_3)_2\text{N}_2$  98, and monochloroacetic acid  
(1) 80 parts, or crushed about 1000, resorcinol 184, and  
 $(\text{CH}_3)_2\text{N}_2$  98 parts was heated 7 days at 65° or for 4 hrs.  
kept in xylene at 140°, homogeneous and elastic solid prod-  
ucts were obtained. It is evident from the compn. that  
some of the N of the  $(\text{CH}_3)_2\text{N}_2$  entered into the compn. It is  
assumed that some activation of the rubber chains is re-  
quired to promote the formation of the compn. It is suitable  
as an activator for this reaction. The 3 components are  
bonded chemically by means of an addn. reaction, the  
linkage occurring on the double bond of an isoprene unit  
activated by the oxidizing mechanism of rubber, the attack  
of which begins on the  $\alpha$ -CH<sub>2</sub> group. The elementary  
compos. of the products and that of the 4 assumed com-  
ponents give 4 equations which, by calcn. of the possible  
contents. The fact that the highest percentage of rubber  
has been found in the product prep'd. with I at 140° confirms  
the above theory. István Flidy



SCHAY, G.

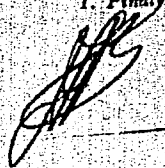
Hungarian Technical Abst.  
Vol. 5 No. 2  
1953

548.0:536.411

16. On the thermal expansion of simple crystals  
— *Egyszerű kristályok hőtágulásáról* — G. Schay. (Proceedings of the Chemical Science Department of the Hungarian Academy of Sciences — *A Magyar Tudományos Akadémia Kémiai Osztályának Közleményei* — Vol. I, No. 3-4, 1952, pp. 103-109)

On the basis of a highly simplified model calculation it has been proven that, contrary to the general conception, the heat expansion of simple crystals occurs even if the lattice elements are considered as strictly harmonic oscillators. This method of calculation leads to values conforming to reality in the order of magnitude. The effect of anharmonicity must be taken into consideration only as a means of correction.

F. Findly



G. SCHAY, P. SZOR

"Stress-Strain Relation of rubber blocks under compression" p. 317  
(ACTA CHEMICA ACADEMIAE SCIENTIARUM HUNGARICAE, Vol. 2, no. 4, 1952,  
Budapest, Hungary)

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

Schay, GÉZÓ

Some thermodynamic relations concerning theories of gas adsorption. Géza Schay, Magyar Tudomány Akad. Kémiai Tudományok Osztályának Közleményei 3, 293-303 (1953).—The basic assumptions of the Langmuir and Polanyi theories of gas adsorption are broadened and clarified; thus the gap between the two essentially contradictory ideas is narrowed. The Langmuir isotherm is derived by statistical mechanics:  $\theta/(1 - \theta) = (h/(2\pi mkT))^{3/2} (\beta/hT)(Q_s/Q_g)p = b\beta$ , where  $\beta$  = area denied to other mols. by an adsorbed mol.,  $Q_s$  = partition function of the adsorbed gas contg. an internal degree of freedom plus vibrational degree of freedom vertical to the surface of adsorbent, and  $Q_g$  = partition function of free gas contg. an internal degree of freedom. Introduction of area  $\beta$  replaces the assumption that mols. occupy definite sites on the adsorbent. Ludwig Luft-Zurakowski

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SCHAY, G.

Statistical derivation of Langmuir's adsorption isotherm in the case of a completely mobile monolayer. (Gyza Schay (Tech. Univ., Budapest). *Acta Chim. Acad. Scientiarum* 511-14 (1953) in English).—The Langmuir adsorption isotherm is derived assuming a mobile 2-dimensional monolayer and correcting for departure from perfect behavior because of the finite size of the adsorbate molecules. This deviation is contrary to the widespread opinion that the Langmuir equation cannot be justified except by the assumption of localized particles. (Fowler and Guggenheim, *Statistical Thermodynamics* 1940, 327 pp.) Arthur Fleischer

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Mathematical discussion of the application of Hess' law.  
A. Pethe and G. Schay (Tech. Univ., Budapest). *Acta  
Chim. Acad. Sci. Hung.* 4, 21-35 (1954) (in German).—Sets  
of thermochem. equations are examd. on the basis of the gen-  
eral principle of Hess' law. The method fails

...the above-mentioned method, according to the above, the  
necessary and sufficient condition for the unambiguous  
solvability with respect to the unknown heat of reaction.  
If such a soln. exists, it can always be achieved by the usual  
procedure, i.e. simple addn. of the equations multiplied by  
suitable coeffs. A straightforward method is outlined by  
which these coeffs. can be directly detd. even in the case of  
complicated sets of equations. J. R. Schwartz

*J.R.S.*  
*[Signature]*

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Gas-adsorption measurements in flow systems. (Cz)

Schuyt and György Székely (Tech. Univ., Budapest)  
Hungarian Acad. Sci. Mag. 3, 107-82 (1954) (in English)

For determination of adsorption in gas-flow systems under conditions similar to those in a catalytic reactor, there is described a method based on the principles of frontal chromatographic analysis. A mixture of the adsorbate gas and an inert gas is passed through a bed of adsorbent in a tube. The adsorption of the adsorbate is begun suddenly and then continued uniformly. The time  $t$  required for the adsorbate front to reach the exit is measured by following the thermal conductivity of the exit gas. The amount adsorbed is  $a = (t - t_0) \cdot v$ , where  $t_0$  is the break-through time of the inert gas determined separately,  $v$  is the vol. feed rate, and  $c$  is the adsorbate concentration in the gas. Isotherms are plotted from pairs of  $a$  and  $c$  values. Detns. on  $\text{SiO}_2$  at 0 and 15.3° with  $\text{CO}_2$  as adsorbate and  $\text{H}_2$  as carrier give differential adsorption heats decreasing from 6600 to 6100 cal./mole with increasing surface coverage. A variation of the method in which the gas is introduced in "slugs" rather than continuously is discussed, but this involves an uncertain amt. of adsorbent.

W. S. Brey, Jr.

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SCHAY, GEZA.

Category : HUNGARY/Atomic and Molecular Physics - Physics of High-Molecular Substances D-9

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3638

Author : Schay, Geza; Szor, Peter

Title : Visco-Elastic Properties of High-Molecular Polymers. V. Spectrum of Relaxation Time with Allowance for the Experimental  $\log \eta$ -Log M Relationships, and for its Dependence on the Deformation under Constant Stress

Orig Pub : Magyar tud. akad. kem. tudoszt kozl., 1955, 6, No 3-4, 289-301

Abstract : See Ref. Zh. Fiz., 1957, for part IV.

Card : 1/1



*SCHAY, GEZA*  
Category: HUNGARY/Atomic and Molecular Physics - Statistical physics. Thermodynamics D-3

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 824

Author : Halasz, Istvan; Schay, Geza; Szonyi, Endrene

Title : Conclusions Drawn from the Analogy of Adsorption and Condensation of Vapors

Orig Pub : Magyar tud. akad. kem. tud. oszt. kozl., 1955, 6, No 3-4, 315-326

Abstract : No abstract

Card : 1/1

dehaq, G.

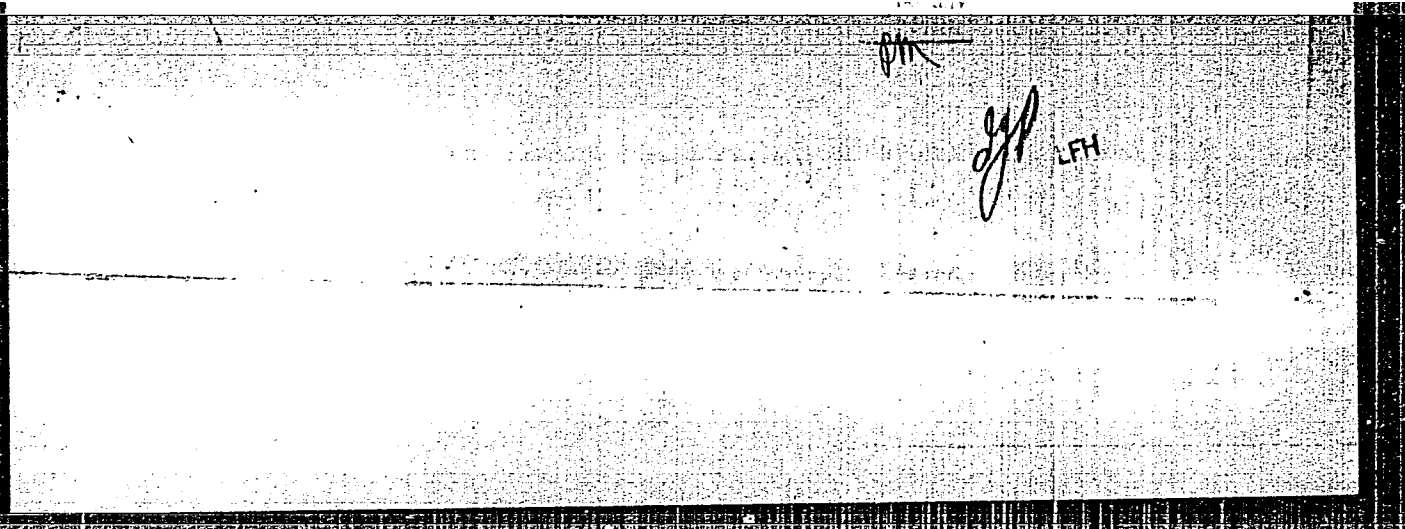
✓ 1 Stress-strain relations in rubber blocks under com-  
pression. In English by Dehaq, G. Schuy  
1952. 4 pages. 1 block. 11 centimeters.

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✓ Visco-elastic behaviour of rubber-like high polymers. I. The Alfrey theory of the distribution of retardation times, with special reference to the empirical relation between  $\log \tau$  and  $M^{0.5}$  and its correlation with deformation at constant stress. II. Deformation of raw rubber under constant stress as function of time. III. Superposition principle. IV. Deformation of vulcanised rubber under constant stress as function of time. P. Sz6r. V. Derivation of distribution of retardation times on the basis of the empirical linear relation between  $\log \tau$  and  $\log M$  and its connexion with deformation at constant stress. G. Schay and P. Sz6r *Acta chim. hung.*, 1955, 8, 57-74; 75-96; 97-102; 103-114; 115-132. — I. A new form of Alfrey's equation for the distribution function of retardation times ( $\tau$ ) is developed and is then used to determine, for one mol. of the polymer, the deformation  $\gamma(t)$  at constant stress with time ( $t$ ). The results enable the viscous, visco-elastic or gelastic behaviour of high-mol. wt. polymers to be related to mol. structure. Over an extended time interval (depending on the length of polymer chain) deformation is a quadratic function of  $\log t$ . For a polymer composed of mol. of different sizes, increase of  $\gamma(t)$  with  $t$  is retarded to an extent depending on the ratio (mol. behaving elastically/total no. of mol.). An equation relating  $\gamma(t)$  with the mol. wt. distribution function,  $\phi(m)$ , is developed.

II. Measurements on natural rubber show that the above theoretical relation between  $\gamma(t)$  and  $t$  is valid only if two different time spectra of  $\tau$  are assumed, with different min. retardation times and min. mol. masses of chain groups. One spectrum involves a CH<sub>2</sub>-group as least unit, and the other segment movement with  $\approx 20-30$  chain atoms. This twofold behaviour of the polymer is explained by the differing mobilities of chain atoms at the nodal points. The effect of temp. on the time-deformation curve can,

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M. A. YOUTZ  
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G. Schoy

in agreement with theory, be explained in terms of two activation energies characterizing the temp-dependence of the  $\eta$  of low-mol. wt. liquids and of polymer, respectively. Between 0° and 38° the behaviour of Buna-S3 simulates that of natural rubber, but above 49.8° there is some true flow although no permanent deformation occurs.

III. It is shown theoretically and experimentally that when the specimen is not initially free from internal stress, the two different spectra of retardation times for natural rubber (cf. Part II) can be derived by applying the principle of superposition of stresses.

IV. There is no difference between the retarded (first) mechanism of natural and vulcanized rubber (0.5-1.5% S), but the second mechanism is absent in the vulcanized material. By considering the mol.-wt. distribution of polymer chains, an equation relating  $\gamma(t)$  with  $t$  for vulcanized rubber at constant stress is derived and is shown to be in agreement with the observed time-deformation curves for vulcanized rubbers at 25°.

V. Fox *et al.* have established that for high-mol. wt. polymers  $\log \eta$  is  $\propto \log M$ . The effect of this on the distribution function of  $\tau$  (cf. Part I) is examined, and a new equation relating  $\gamma(t)$  with  $t$  at constant stress is derived and its validity is tested experimentally. The modified values of  $\gamma(t)$  thus obtained and based on the  $\log \eta$ - $\log M$  relation are valid in practice only if an instantaneous elastic deformation is assumed. A satisfactory qualitative explanation of the visco-elastic behaviour of high-mol. wt. polymers is based on a mol. mechanism (springs and gliding elements) developed from a comparison of the experimental and theoretical time-deformations reported in Parts I-V.

W. J. BAKER

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SCHAY, GEZA

✓ The analogy of steam adsorption and condensation. István Halász, Géza Schay, and H. Szonyi (Műszaki Egyetem, Budapest). *Magyar Tudományos Akad. Kém. Tudományok Osztályának Közleményei* 6, 315-28; *Acta Chim. Acad. Sci. Hung. B*, No. 1-3, 143-56(1955)(in English). Three relations were derived by means of which the differential desorption (adsorption) heat corresponding to any equill. pressure can be calcd. from data characteristic of adsorption vapor (crit. data, vapor pressure, heat of evapn.). The 1st relation is based on the fact that the Polányi-type potential is independent of temp.; the other 2, however, take the analogy of desorption and evapn. into consideration for the respective condition. With the adsorption isotherm known, the differential adsorption heat can be calcd. from the 3 relations as a function of the coverage of the adsorbent. The adsorption isotherms on  $\text{SiO}_2$  gel for furan vapor were detd. When equations were applied to these measurements any equation gave correct results within the limits of errors. Used for the measurements of Honig and Ryerson ((*C.A.* 46, 8458A)  $\text{A}$ ,  $\text{O}_2$ , and  $\text{N}_2$  on rutile at the temp. of liquid air) it turned out it could still be used for relatively small pressures, the deviations rarely exceeding 10%. W. V.

SCHAY G.

Measuring the dielectric constant and the loss angle of liquids by multiple reflection of microwaves. Péter Hedvig, László Németh, and Géza Schay, Jr. (MTA Elektromágneses Hullámok Osztálya, Budapest, Hung.). *Magyar*

*Tudományos Akad. Közleményei 4, 48-67(1956).*—Electromagnetic radiations show multiple reflection from the boundaries of liquid dielec. layers. The mutual interference of these reflected rays disturb the detn. of the dielec. const. ( $\epsilon'$ ) by the microwave method. This disturbing effect was studied, and it was found that it itself can be used for the detn. of  $\epsilon'$  and the loss angle. The app. consists of a 3.2-cm. reflex OSW-2013 Klystron tube, the output of which is fed into the measuring circuit, contg. a vertical wave conductor with square cross-section, through an attenuator. Another attenuator is provided to absorb the radiations reflected from the liquid in the measuring area. A crystal detector is used to indicate the transmitted microwave output. Another detector is provided to check the function of the oscillator. The layer thickness of the liquid can be varied from 2 to 8 cm. Construction data and operating techniques are given in detail. By examg. toluene and EtOH-benzole mixts. it was found that the method is suitable for a  $\tan \delta$  range of 0.1-0.001 and that the accuracy is 2% for  $\tan \delta$  (a reduction can be effected by improving the amplitude and frequency stability) and 1% for  $\epsilon'$  (limited only by the accuracy of layer thickness and wave-length measurements). G. J. E.

SC-HAY, G

4

1971. MEASUREMENT OF THE COMPLEX DIELECTRIC  
CONSTANTS OF LIQUIDS AT MICROWAVES USING THE EFFECT  
OF MULTIPLE REFLEXION. P. Redvig, L. Németh and G. Schfy *det*  
Acta phys. Hungar., Vol. 6, No. 2, 337-8 (1975).

The transmitted intensity in a waveguide is measured as a  
function of sample thickness, standing waves either in front or  
behind the sample being avoided by suitably placed attenuators.  
Formulae are given for calculating  $\epsilon$  and  $\tan \delta$ . The accuracy is  
estimated as 1% for  $\epsilon$  and 2% for  $\tan \delta$ , assuming a liquid of medium  
K.W. Plossner

*det*  
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SECRET

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Adsorption of the components of binary liquid mixtures  
L. I. Ivanova, L. Ivanova, J. Badagost, etc. Chem. Abstr.

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range in which it is the component with the larger mole fraction

Paul H. Bennett

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Simplified method for the determination of specific sur-  
faces of porous adsorbents. The synthesis of nitrogen at  
K. K. Krasovskii

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