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AUTHOR: Levshin, V. L.; Pirinchiyeva, R. K.; Stankova, A. V.

ORG: Department of Optics (Kafedra optiki)

TITLE: Change in the optical characteristics of phosphors when the ratio of the components of the base is changed

SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 5, 1966, 17-21

TOPIC TAGS: luminor, luminescence center, rare earth element, activated crystal, indium compound optic material, yttrium compound, *phosphor*

ABSTRACT: The authors have investigated the influence of a change in the lattice constant and in the width of the forbidden band on the luminescence centers of rare-earth ions in mixed crystals. For this purpose, a continuous series of $Y_2O_3 \cdot In_2O_3$ solid solutions activated with rare-earth elements, was synthesized. The synthesis procedure is described briefly. The activators were Er, Tu, Tb, and Eu. The width of the forbidden band was determined from the reflection spectra, using as the continuous-spectrum source a xenon lamp (DKSSh-200). A spectrophotometer (SF-4) served as the monochromator. The reflection spectra were recorded point by point (with an FEU-18A photomultiplier, a dc amplifier, and a galvanometer) and normalized against chemically pure powdered MgO. With the increasing content of In_2O_3 , up to 20 mol.%, the width of the forbidden band decreased rapidly, but with further increase of In_2O_3 concentration

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UDC: 535.373.1

ACC NR: AF6036161

it decreased with decreasing lattice constant more slowly and almost linearly. This behavior is similar to that observed in other solid solutions such as ZnS·CdS. The 2.9⁴ ev width obtained for pure In₂O₃ is apparently lower than the value 3.5 ev quoted in the literature. The reason for the discrepancy is not yet clear. Variation of the lattice constant with increased content of In₂O₃ did not affect qualitatively the luminescence spectra, other than a change in the magnitude of the internal crystalline field (without change in its symmetry) and a slight shift of different lines, as well as a drop in the total intensity. The latter is due to the quenching action of the indium oxide. Orig. art. has: 4 figures and 1 formula.

SUB CODE: 20// SUBM DATE: 09Apr65/ ORIG REF: 003/ OTH REF: 009

Card 2/2

PIRINGHER, Reinhard, ing.

Low-frequency attenuation and phase characteristics of an RC-coupled transistorized amplifier. Telecommunicatii 8 no.6:241-247 S '64.

KOCHERGIN, S.V.; GORYUSHKIN, F.F., dorozhnyy master; BORISENKO, D.G., brigadir;
GRINEVICHUS, E.A. (Grinevichus, E.); KURS, V.G., brigadir; SELIONOV, S.I.;
BEN'KOVSKIY, V.Ya.; PIRIYEV, A.M.

Letters to the editor. Put' i put.khoz. 7 no.2:36-37 '63. (MIA 16:2)

1. Zamestitel' nachal'nika Rossoshanskoy distantzii Yugo-Vostochnoy dorogi (for Kochergin).
2. Stantsiya Kudinovo, Moskovskoy dorogi (for Goryushkin).
3. Stantsiya Kshanitsa, Moskovskoy dorogi (for Borisenko).
4. Starshiy dorozhnyy master, stantsiya Klaypeda, Litovskoy dorogi (for Grinevichus).
5. Stantsiya Cheremkhovo, Vostochno-Sibirskoy dorogi (for Kurs).
6. Zamestitel' nachal'nika distantzii, Manzovka, Dal'nevostochnoy dorogi (for Selionov).
7. Nachal'nik otdela zashchitnykh lesonasazhdeniy sluzhby puti, g.Kuybyshev (for Ben'kovskiy).
8. Zamestitel' nachal'nika distantzii, Khachmaz, Azerbaydzhanskoy dorogi (for Piriyeu).

(Railroads—Track)

PIRIYEV, N. P., Cand Phys-Math Sci -- (diss) "Research into solutions of some systems of non-linear integral equations by parameter." Baku, 1960. 11 pp; (Committee of Higher and Secondary Specialist Education of the Council of Ministers Azerbaydzhan SSR, Azerbaydzhan State Pedagogical Inst im V. I. Lenin); 100 copies; price not given; (KL, 28-60, 157)

KOSHELEV, Konstantin Leont'yevich, kand. tekhn. nauk; PIRIN, I.V., kand.
tekhn. nauk, retsenzent; DOBRITSYNA, R.I., tekhn. red.

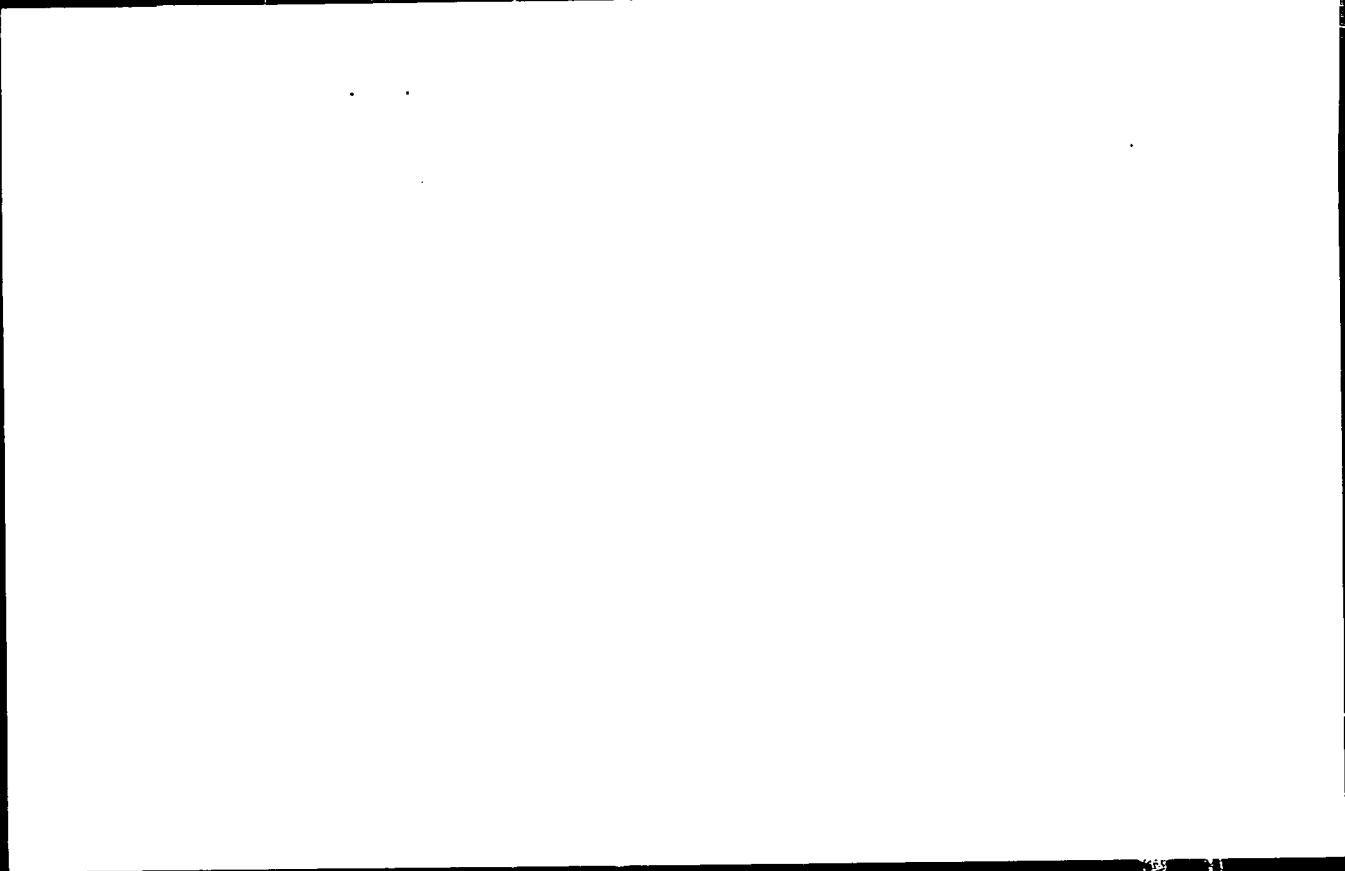
[Self-release of rigid clutches] Samovykliuchenie zhestkikh
stseprnykh muft. Moskva, Gos. nauchno-tekhn. izd-vo mashino-
stroit. lit-ry, 1961. 53 p. (MIRA 14:8)
(Clutches(Machinery))

SHISHKIN, Kirill Aleksandrovich, zasl. deyatel' nauki i tekhniki, prof.
[deceased]; GUREVICH, Abram Natanovich, kand. tekhn. nauk; STEPA-
NOV, Aleksandr Dmitriyevich, kand. tekhn. nauk; PLATONOV, Yevgeniy
Veniaminovich, kand. tekhn. nauk; BLIZNYANSKIY, Aleksandr Semenovich,
inzh.; PIRIN, I.V., kand. tekhn. nauk, retsenzent; BASENTSYAN, A.A.,
inzh., red. izd-va; MODEL', B.I., tekhn. red.

[Soviet diesel locomotives] Sovetskie teplovozy. Izd. 4., perer. i
dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry
Mashgiz, 1961. 490 p. (MIRA 14:9)
(Diesel locomotives)

FURY, Minaly; FURIFYI, Istvan

The 4th Czechoslovak conference on genetics. 1957-58. 1958.



PIRITYI, Otto, dr.

Present state and future problems of the manpower situation
in Hungary. Munka szemle 8 no. 1: 38-40, 1964.

F. F. 17, 110, 111.

P. 165.

PIRIYEV, R.Kh.

Maps of the density of the river system in the Azerbaijan S.S.R.
Uch.zap. AGU. Geol.-geog.ser. no.4:95-100.'60. (MIRA 15:9)
(~~Azerbaijan~~—Rivers—Maps)

PIRIYEV, R.Kh.; TERTEROV, A.A.; BAGIROV, I.M.

Maximum discharge of water of the ephemeral streams in the region
of winter pastures of Kobystan. Uch.zap.AGU. Geol.-geog.sbr.
no.6:97-106 '61. (MIRA 16:1)
(Kobystan—Water-supply engineering)

PIRIYEV, R.Kh.

Density of the river network and its geographical distribution in
the Shirvan area. Uch.zap.AGU.Geol.-geog.ser. no.5: 59-66' 59.

(MIRA 14:6)

(Shirvan--Rivers)

PIRIYEV, H.Kh.

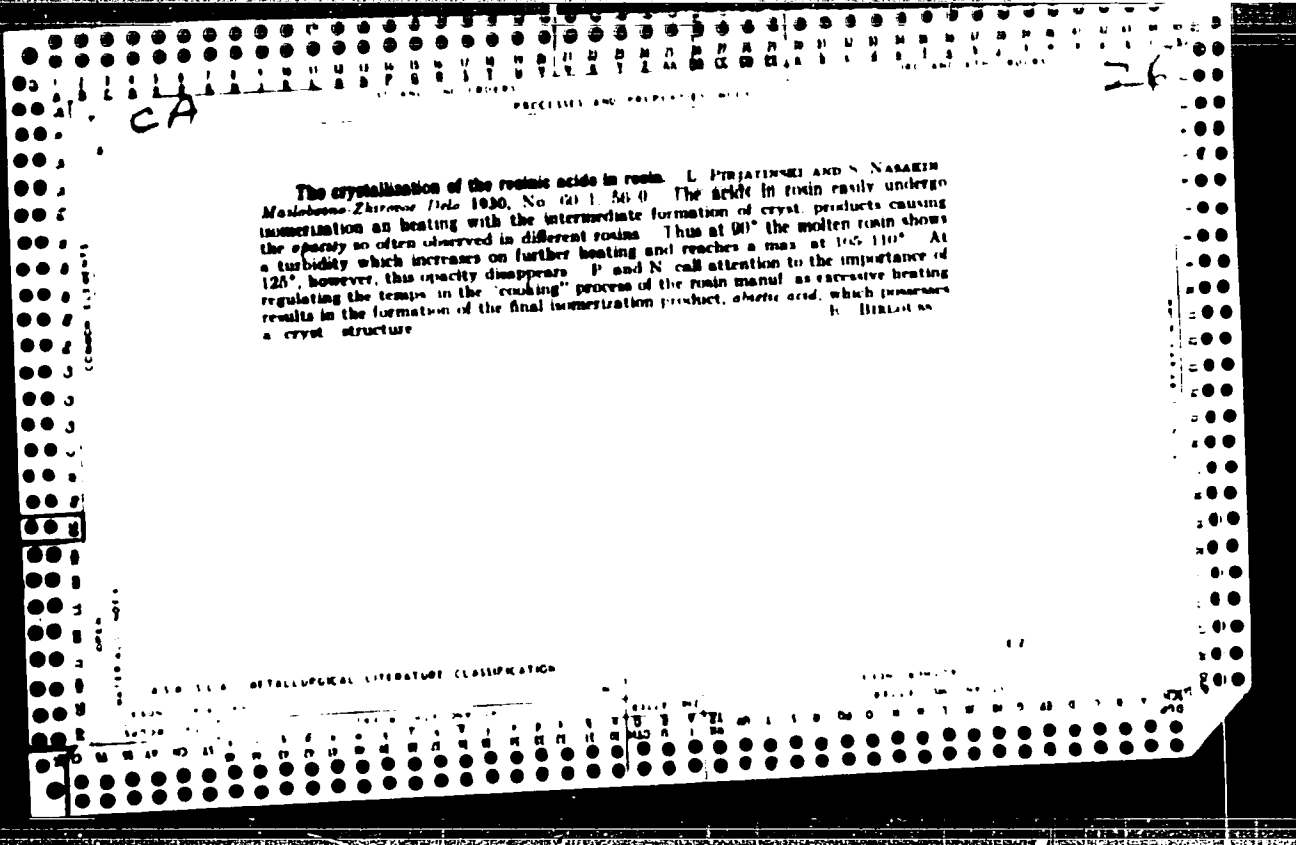
~~_____~~
Density of the river net in northeastern Azerbaijan [in Azerbaijani
with summary in Russian]. Uch. zap. AGU no.2:89-104 '57. (MIRA 11:1)
(Azerbaijan--Rivers)

PIRIYEV, R.K.

Hydrographic characteristics of rivers in northeastern Azerbaijan
[in Azerbaijani with summary in Russian]. Uch.zap.AGU.no.8:39-54 '57.
(MIRA 11:11)

(Azerbaijan--Rivers)

...IRIY-V, P. Kh., ... "Mor noigiri...
characteristics of the rivers of northeast Azerbaijan."
Bak., Pub. House of Azerbaijan Univ., 1988, 15 pp. (Mikro-
... Azerbaydzhan State Univ. ...). Bibrov
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PIRLOL, M., ing.

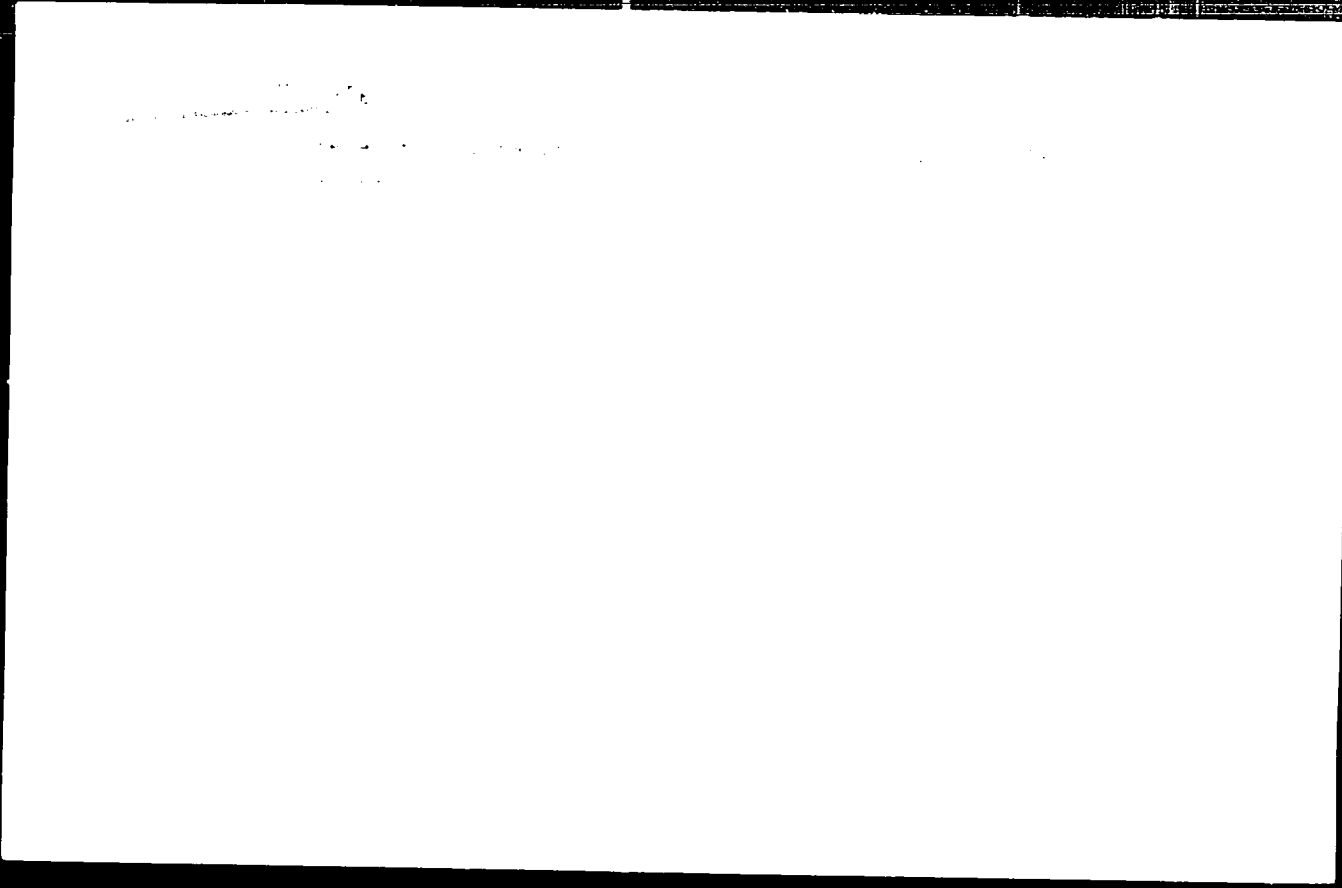
Underground record of speed ... at ...

P. H. C. O., M., 1942.

concentration of

PIRJOL, Mircea, ing.; SIMIONESCU, Traian

Magnets wast. bal. St. si Teh. Buc 19 20.11.3-2 Ca 1-3



CZECHOSLOVAKIA

PIRE, P.

Research Institute (Ústav pro v, zkum v, zivny lidu),
Praha-Ústí

Brno, Vnitřní lékařství, No 6, 1963, pp 533-538

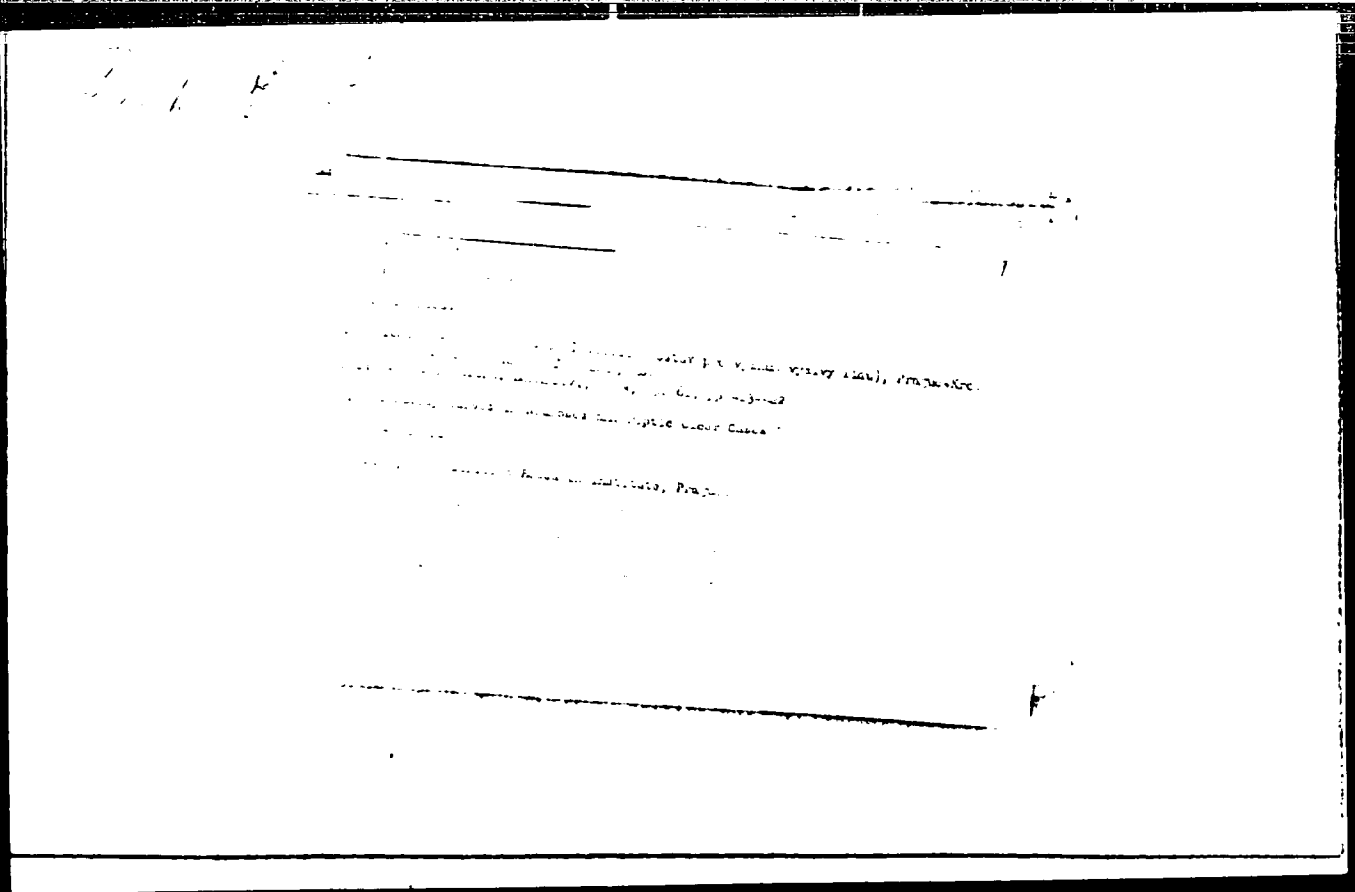
"Advances in Roentgenology."

BEJBLOVA, O.; PIRK, F.

On the problem of the necessity of native roentgenography before
cholecystography. Cesk. rentgenol. 16 no.1:60-66 F '62.

1. Ustav pro vyzkum vyzivy lidu, Praha-Krc, reditel doc. MUDr.
Josef Masek.

(CHOLECYSTOGRAPHY)



PINK, F.; BEJBLOVA, O.

Intermittent arteriomesenteric compression of the duodenum.

Cesk. rentgenol. 15 no. 5: 344-353 0 '61.

(DUODENUM dis.) (MESENTERIC VESSELS dis.)

VULTERINOVA, M.; DOBERSKY, P.; PIRK, F.; HRUBA, F.; SEGOVA, E.; BLAHNIKOVA, L.;
SLABOCHOVA, Z.; PLACER, Z.

Changes of the nutritional status of gastrectomized patients, their
diagnosis, prevention and therapy. Cesk. gastroent. vyb. 16 no.3/4:
258-265 Ap '62.

1. Ustav pro vyzkum vyzivy lidu v Praze, reditel doc. MUDr. J. Masek,
DrSc.

(GASTRECTOMY)

(NUTRITION DISORDERS)

PIRK, F.; VULTERINOVA, M.

Influence of gastric acidity on the transit time through the small intestine in patients after gastrectomy. Rev. Czech. med. 9 no.3:145-155 '63.

1. Institute of Human Nutrition, Prague, Director: Prof. J. Masek, M.D., D.Sc.

(GASTRIC ACIDITY DETERMINATION)
(POSTGASTRECTOMY SYNDROMES)
(INTESTINE, SMALL) (STOMACH)
(NUTRITION DISORDERS) (RADIOGRAPHY)

PIRK, F.; VULTERINOVA, M.

Effect of gastric acidity on the rate of passage through the small intestine in patients after stomach resection. (Roentgenological study). Cesk. gastroent. vyz. 17 no. 1: 10-19 Ja 1963.

1. Ustav pro vyzkum vyživy lidu v Praze, reditel prof. dr. J. Masek, DrSc.

(GASTRECTOMY) (GASTRIC ACIDITY DETERMINATION)
(INTESTINE, SMALL) (RADIOGRAPHY)

VULTERINOVA, M.; DOBERSKY, P.; PIRK, F.; HRUBA, F.; SEGOVA, E.; BLAHNIKOVA, L.;
SLABOCHOVA, Z.; PLACER, Z.

Changes in the nutritional state of patients after gastrectomy; diagnosis,
prevention and therapy. Rev. czech. med. 8 no.4:276-284, '62.

1. Institute of Human Nutrition, Prague; Director: Prof. J. Masek, M.D.
(POSTGASTRECTOMY SYNDROMES)

PIRK, F.; BELAN, A.; TRAVNICEK, R.; BUDINOVA-SMELA, J.; FRYNTOVA, A.: technicke
spoluprace BUFKA, L.; KRIZOVE, M.; KUBIASOVE, E.; KUTILA, L.

Our experiences with roentgen cinematography in cerebral angiography.
Preliminary report. Cesk. neur. 24 no.1:51-53 Ja '61.

1. Ustav pro vyzkum vyzivy lidu, Praha, reditel doc. MUDr. J. Masek -
Ustav pro klinickou a experimentalni chirurgii, Praha, reditel profesor
MUDr. B. Spacek - Oddeleni pro cervni onemocneni mozku, predn. doc.
MUDr. J. Budinova-Smela, Laboratore statniho filmu, Barrandov.

(CEREBRAL ANGIOGRAPHY)

TRAVNICEK, R.; BELAN, A.; PIRK, F.; technicka spoluprace: BUJKA, L.;
KLAINOVA, E.; KRIZOVA, M.; KUTIL, V.

Our experience with roentgenographic cinematography of the digestive
tube. Cesk.rentg. 15 no.1:10-16 F '61.

1. Ustav klinicke a experimentalni chirurgie, red. prof. Dr.Sc.
dr. B. Spacek. Vyzkumny ustav vyzivy lidu, red.doc. dr. J.Masek,
Praha-Krc; Laboratore CSF - Barrandov.

(GASTROINTESTINAL SYSTEM radiog)
(CINEFLUOROGRAPHY)

PIRK, F.; PETRAKOVA, M.

The significance of the most frequent errors causing uneven darkening of roentgen pictures. *Cesk.rentg.* 15 no.2:139-143
Apr '61.

1. Ustav pro vyskum vyzivy lids, Praha-Krc, Budejovicka 800,
reditel doc. MUDr. Josef Masek.
(RADIOGRAPHY)

PIEK, P.; PETRAKOVA, M.; BROZEK, M.

Our experience with automatic measuring of blackening of the film with the aid of the awolimat. Cesk.rentg.14 no.6:416-418 D'60.

1. Ustav pro vyskum vysivy lidu, Praha-Kro, reditel doc. MUDr. Josef Masek, Chirana, n.p. Praha-Modrany.
(RADIOGRAPHY equip & supply)

EXCERPTA MEDICA Sec 15 Vol 12/10 Chest Dis. Oct. 59

2236. ATYPICAL COURSE OF A TUBERCULOUS SPONDYLITIS OF THE AXIS -
Atypischer Verlauf einer tuberkulösen Spondylitis des Epistropheus -
Pirk F., Tejmarová J. and Kalenda H. Thomayer'schen Krankenh.
Prag - RADIOL. CLIN. (Basel) 1958, 27/4 (243-249) Illus. 4

A case of tuberculous spondylitis of the axis, with destruction of the odontoid process and the upper ventral part of the body of the axis is described. The case was diagnosed and followed up radiologically. The patient was cured by the use of anti-tuberculous. Out of the upper dorsal part of the body of the axis, a support, similar to the odontoid process of the axis, formed for the anterior arch of the atlas. For still better fixation, a spondylodesis C1-C4 was performed. (XIV, 15)

PIRK, Frantisek

Importance of contrast media added to Boyden's mixture in cholecystography. Cas. lek. cesk. 98 no.34:1059-1067 21 Aug 59

1. Ustav pro vyzkum vyziwy lidu, red. doc. MUDr. Josef Masek.
(CHOLECYSTOGRAPHY)
(CONTRAST MEDIA)

EXCERPTA MEDICA Sec 14 Vol 13/5 Radiology May 59

ATYPICAL COURSE OF A TUBERCULOUS SPONDYLITIS OF THE
AXIS - Atypischer Verlauf einer tuberkulösen Spondylitis des Epistropheus -
Pöckl E., Kerschbaum M. J. and Kallenda R. - D. Mayer schol.
Krankenh. Prag - RADIOL. CZECH. (Brno) 1958, 2:74 (243-244) 1.28. 4

A case of tuberculous spondylitis of the axis, with destruction of the odontoid process and the upper vertebral part of the body of the axis is described. The case was diagnosed and followed up radiographically. The patient was cured by the use of antituberculous. Out of the upper dorsal part of the body of the axis, a support was made of the odontoid process of the axis, formed for the anterior arch of the axis. For still better fixation, a spondylectomy C1-C4 was performed. (XIV 157)

Plrk, F. (Praha 12, Krkonoska 7.)

Intramural hematoma of the duodenojejunal bend. Cesk. rentg. 12 no.3:
191-195 Sept 58.

1. Ústav pro výzkum výživy lidu, Praha-Krc (rod. doc. MUDr. J. Muncik)
(DUODENUM, hemorrh.
hematoma, intramural of duodenojejunal bend, case report (Cz))
(JEJUNUM, hemorrh.
same)
(HEMATOMA, case reports
intramural of duodenojejunal bend (Cz))

PIRK, Frantisek (Praha 12, Krkonoska ?.)

Senile atrophy of parietal bones. Cesk. rentg. 13 no.1:65-66 Feb 59.

1. Ustav pro vyzkum vyzivy lidu v Praze-Krci, reditel doc. dr. J. Masek.
(PARIETAL BONE, dis.
senile atrophy, x-ray manifest. (Cz))

PIRK, F.; ZEMAN, G.; KRIZ, R.

Two rare cases of hollow aneurysms of the ascending aorta. Cesk. rentg.
11 no.4:256-261 Dec 57.

1. Ustav pro vyzkum vyzidu lidu v Praze-Krci, reditel doc. J. Masek
a oddeleni ustr. rentgemu Thomayerove nemocnice v Praze-Krci.

(AORTIC ANEURYSMS, case reports

hollow aneurysms of ascending aorta, rare cases (Cz))

ROBETA MEDICA Sec. 6 Vol. 11/10 Oct. 57
PIRKE

6497. PIRK F., WIDIMSKÝ J. and VOLF V. Odd. pro Chor. z Povol. KÚNZ, Karlovy Vary; Ustřed. Roentg. Thomayerovy Nem., Praha-Křf; Ust. Oběhu Krevn., Praha-Křf; Klin. Chor. z Povol. a Hyg., Praha. Vývoj zatížení srdce v RTG. obraze u silikózy. The evolution of the 'strain' of the heart in the X-ray picture in silicosis VNITŘ. LÉK. 1956, 2/12 (1092-1100) Tables 6 Illus. 2

Out of 100 patients with past-history of exposure to dust, 73 reported after 3-4 yr. for a control examination. By the same method as in the first examination on antero-posterior X-ray films taken from a 2 cm. focus, the current diameters of the heart were measured. In a one-stage examination, the diameters are of no help in making the diagnosis of cor pulmonale. They depend to a great extent upon the change of the position of the heart, which is stipulated by the change of the position of the diaphragm. The diameters have not changed appreciably even during the control examination after 3-4 yr., even when in many patients a considerable progress of the disease was frequently apparent. However, a progress in the width of pulmonary artery branch occurred, the right lower branch being also measured (truncus intermedius). This branch is considered to be pathologically widened when its diameter under the area of greatest curve is 17 mm. The number of patients with branches so widened increased. This occurred in 11 patients, who did not show this finding four years ago. Out of 8 patients, who 3-4 yr. ago showed a widening of pulmonary artery branches, three have died. The widening of the branches is one of the principal X-ray changes in hypertension of the small circulation system. The prominence of the arc of the pulmonary artery trunk is not very helpful in estimation of high blood pressure in the small circulation system before it reaches a considerably high level. The prominence of the arc of the pulmonary trunk is not accurately definable, and it is impossible to verify it through an objective criterion, because the pulmonary artery trunk cannot be measured without employing a contrast medium. Enlarged heart was found in the whole of the series only on three occasions in patients with hypertensive disease.

(VI, 15*)

PIRK, ERIC, R.; PIRK, F.

Possible familial congenital craniostenosis (dysostosis craniofacialis,
Crouzon disease. Cesk. pediat 12 no.9:834-836 5 Sept 57.
(HYPERTENSION, case reports,
hered. craniofacial dysostosis (Cz))

PIRK, Frant.; SMETANA, Josef

On diagnosis and therapy of circumscribed supradiaphragmatic tumors. (Report of 2 cases - mesothelioma and hemangioma).

Rozhl. chir. 39 no.5:342-347 My '60.

1. Ustav pro vyzkum vyzivy lidu, Praha, red. doc. MUDr. Josef Masek; Ustav pro klinickou a experimentalni Chirurgii, Praha, red. prof. MUDr. Bohumil Spacek.

(LUNG NEOPLASMS case reports)

(MESOTHELIOMA case reports)

(HEMANGIOMA case reports)

PIRK, Frantisek, MUDr; MIKULASKOVA, Jaroslava, MUDr

Differential diagnosis of tumor from infarct of the kidney. Cesk.
rentg. 9 no.4:143-148 Nov 55.

1. Z oddeleni ustredniho roentgenu Thomayerovy nemocnice v Praze-
Krci, prednosta MUDr Milos Brozek, a z pathol. anatom. odd.,
prednosta doc. MUDr Dagmar Benesova.

(NEOPLASMS; neoplasms,
differ. diag. from infarct)

(KIDNEYS, infarction,
differ. diag. from tumor)

FEIK, K. E.

¹³C-13C bond lengths in the 1,2-dithiane molecule. Journal of General Chemistry (Zhurnal Obshchei Khimii) 1960, Volume 30, No. 3, p. 1000-1001.

Author: K. E. FEIK, B. P. SHARAFUTDINOV, V. V. SHARAFUTDINOV

PIRAN, B...

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PIRKA, Jaromir

7
6

✓ Arylation with diazonium salts. II. Effects of catalysts, temperature, and substitution of the diazonium salts on the course of the reaction with 4-sulfobenzoic acid. Jaroslav Dobš, III. Mešnar, J. Kříž, and Jaroslav Pícha (Vys. učav. org. syntez, Pardubice-Rybitví, Czechoslovakia). Chem. listy 5, 463-2 (1937); cf. C.A. 47, 8603d. — Reactions of $p\text{-O}_2\text{N}_2\text{C}_6\text{H}_4\text{N}_2\text{Cl}$ (I) or of $4\text{-O}_2\text{N}(\text{O}_2\text{S})\text{C}_6\text{H}_4\text{N}_2^+$ with an equimolar amt. of $p\text{-NaO}_2\text{SC}_6\text{H}_4\text{CH}:\text{CHCO}_2\text{H}$ in the presence of excess Ac_2O , which yield $p\text{-NaO}_2\text{SC}_6\text{H}_4\text{CH}:\text{CH}(\text{CO}_2\text{H})\text{C}_6\text{H}_4\text{NO}_2$ (II) and 4-nitrobenzo-3,4'-disulfonic acid (III), resp., are favorably influenced by raising the temp. to 60° and by catalysts with Cu salts, more conspicuously in case of the less reactive I. Expts. with other substituted diazonium salts revealed that the influence of substituent on yield of *stilbens series* (IV) decreased in the order: position 4, 2, and 3. Of *p*-substituents the groups OMe , NHCOCH_3 , Cl , and SO_3H exert a favorable, Me group an insignificant, and NO_2 and CO_2H an unfavorable influence on the formation of IV. Contrary to Kochi (C.A. 50, 8560a) Cu , CuCl , and CuCl_2 are all effective catalysts, CuCl_2 being the most potent. Reducing II and III with Fe in neutral medium gives $p\text{-}(p\text{-HO}_2\text{SC}_6\text{H}_4\text{CH}:\text{CH})\text{C}_6\text{H}_4\text{NH}_2$ and 4-aminobenzo-3,4'-disulfonic acid, resp. I. I. Hrbáček

PM amg

CA

9

Magnetizing weakly magnetic ores. V. Yu. Puker.
 Izv. Akad. Nauk SSSR, Seriya Fiz.-Mat. Nauki, No. 21,
 1963, p. 2222. 13 refs. See also Seriya Fiz.-Mat. Nauki,
 No. 22 (1963); of C. A. 28, 3034. An experimental
 investigation was made of the problem of magnetizing
 weakly magnetic hematite and brown ores in a magnetic
 field of high intensity, also of the effect of preliminary
 heating of the ore on its magnetization. Preliminary
 heating improves the magnetic properties of Fe ores.
 Optimum temp. of heating the ore was 600° for particle
 size 0.05 and 0.5-1 mm, and 800° for particle size 1-
 and 2-3 mm. Optimum time of heating at the optimum
 temp. varies from 5 min. at 600° to 15 min. at lower
 temps. The heating effect is non-reversible on cooling.
 S. I. Madorsky

ADDITIONAL METALLURGICAL LITERATURE CLASSIFICATION

PIRKES, S.B.

Salts of rare-earth elements of the ceria group with some organic acids. Uch.zap. SGU 75:6-7 '62. (MIRA 17:3)

DODONOV, Ya.Ya.; PIRKES, S.B.

Salts of some rare-earth elements with α -nitro-d-camphor. Uch.
zap. SGU 75:3-6 '62. (MIRA 17:3)

PIRKES, S. B.

✓ 8276

ON CAMPHORATES OF SOME RARE-EARTH ELEMENTS

Ya. Ya. Dodonov and S. B. Pirkas (Saratov State Univ.);

Zhur. Obshchei Khim. 26, 379-81 (1956) Feb. (In Russian)

Chem
A method is presented for the preparation of d-camphorates of La, Ce, Pr, and Nd by the reaction of their aqueous chloride solutions with sodium camphorate. It has been established that d-camphorates of the Ce group are moderately soluble in H₂O; that the solubility of rare earth elements decreases in the following order: Nd, Pr, Ce, La, and Th; that the solubility of d-camphorates of rare earth elements and Th increases with cooling and decreases with heating. A. G. It was observed that d-camphorates of rare earth elements are easily hydrolyzed and an ethyl alcohol precipitation can be used for their separation (without hydrolysis) from aqueous solutions. (R.V.J.)

OK

Perkes, S.B.

2

Drying of materials by vacuum and deep cooling method. Ya. Ya. Dodonov and S. B. Perkes (Zh. obshch. Khim., 1958, 88, 690-691).—
An apparatus is described to speed up the drying of salts of rare earth elements. By use of a deep-cooling chamber filled with CaCl_2 , the pressure of water vapour is lowered on being removed from the drying zone by dry H_2 . The salts are contained in a flask on a water-bath in a small open glass vessel. Dry H_2 passes through the flask. The water condensation column is of specially prepared glass; the CaCl_2 is cooled with liquid air. Time for complete drying was 2 hr. at -84 to -90° , pressure 8-10 mm. CO_2 in acetone may be substituted for liquid air. A. L. B.

USSR/Cosmochemistry - Geochemistry. Hydrochemistry.

D.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30434

Author : Kul'berg, L.M., Pirkes, S.B., Davydova, N.I.

Inst : Saratov University

Title : Rapid Method for Ascertaining the Degree of Dolomitization and the Structure of Carbonate Rocks

Orig Pub : Uch. zap. Saratovsk. un-ta. 1956, 43, 135-140

Abst : A new procedure has been developed for determining in the field the degree of dolomitization of carbonate rocks. The specimens under study are calcined at 675-725° for 10 minutes and are treated with an alkaline solution of p-nitrobenzene-azo-resorcinol, or with a boiling solution of diphenylcarbazide in alcohol. With magnesites and dolomites an intensive coloration develops. A sample that has not been calcined gives with diphenylcarbazide a coloration only if it contains magnesite. A method has been worked out for determining the extent of dolomitization

Card 1/2

DODONOV, Ya.Ya.; PIRKES, S.B.

Synthesis of α -nitro-d-camphor. *Izv.vys.ucheb.zav.; khim.i khim.*
tekh. 5 no.1:112-114 '62. (MIRA 15:24)

1. Saratovskiy gosudarstvennyy universitet imeni Chernyshevskogo,
kafedra neorganicheskoy khimii.
(Camphor)

VEYTS, Venyamin Isaakovich, ZAKHARIN, Andrey Georgiyevich, KANAULOV,
Nikolay Aleksandrovich, PIRKHAVKA, Petr Yakovlevich, KRZHIZHANOVSKIY,
S.M., akad., otv. red.; BOYOSLOVSKIY, R.B., red. (zd-va); ASTAP'YEVA,
G.A., tekhn. red.

[Local electric power systems] Mestnye energeticheskie sistemy.
Moskva, Izd-vo Akad. nauk SSSR, 1959, 294 s. (MIRA 17:10)
(Rural electrification)
(Electric power distribution)

PIRKHAVKA, P.Ya.

Concerning the determination of the future level of electrification
for nonindustrial purposes in rural districts. Obshch.energ.
no.4:29-39 '61. (MIRA 14:8)
(Rural electrification)

8(6)

PHASE I BOOK EXPLOITATION

SOV/1277

Veyts, Veniamin Isaakovich, Zakharin, Andrey Georgiyevich, Karaulov, Nikolay Aleksandrovich, and Pirkhavka, Petr Yakovlevich

Mestnyye energeticheskiye sistemy (Local Power Systems) Moscow Izd vo AN SSSR, 1958. 294 p. 3,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Energeticheskiy institut.

Resp. Ed.: Krzhizhanovskiy, G.M., Academician; Ed. of Publishing House: Bogoslovskiy, B.B.; Tech. Ed.: Astaf'yeva, G.A.

PURPOSE: The book is intended for engineers and planners working in the field of rural electrification.

COVERAGE: According to Academician G.M. Krzhizhanovskiy, responsible editor of the book, the electrification of agriculture will proceed by connecting rural areas with the networks of interconnected power systems. However, the electrification of a number of agricultural regions must, for the near future, be oriented on a local scale. Studies conducted at the Energeticheskiy institut AN SSSR (Power Engineering Institute AS USSR) led to conclusions that the basic

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Local Power Systems

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form of development of local power engineering must be the local power system, connecting rural and other local power stations for parallel operation in a common high-voltage network. Basic theoretical assumptions determining the selection of parameters of local power systems were outlined in a series of works conducted at the Power Engineering Institute. The present book generalizes the results of these works without, however, attempting to cover all the problems connected with the development of local power systems of various types. The authors thank Academician G.M. Krzhizhanovskiy for his help and Doctor of Technical Sciences I.A. Buzko and Engineer A.A. Beschinskiy for reviewing the manuscript. V.N. Sakharov, junior scientific assistant, helped with certain sections of Chapter V and Engineer N.S. Kanakin wrote section 2 of Chapter VII. There are 80 references, all Soviet.

Card 2/8

(Local Power Systems)

SOV/1277

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Card 7/8

CA

*(Nikolai...
...)*

Chemistry of propanoates containing halogen in the nucleus J. Frejka and J. Pohl (Univ. Prague) *Časopis pro chemii farm.* 1, 309-10 (1953).—Some new propanoates containing halogen in the nucleus were prepared by 2 different methods: (1) by heating of corresponding β -aminobenzoic acids with halogen (I) with diethylaminoethanol in a sealed tube; (2) by transesterification of ethyl esters of I with diethylaminoethanol by catalysis with Al isopropylate. The second method produced better results. A method for the preparation of the compound, diethylaminoethyl 3,5-dichloro-4-aminobenzoate, and a new method of preparation of diethylaminoethyl 3-iodo-4-aminobenzoate by reesterification of ethyl 3-iodo-4-aminobenzoate with diethylaminoethanol were described. Dagmar Hubíková

PIRKHAVKA, P. Ya. (Moskva)

A local electric power system using the seasonal flow of small
rivers. Izv. AN SSSR. Otd. tekhn. nauk no. 10: 170-176 0'55.
(Hydroelectric power stations) (MLRA 9:1)

OVECHKIN, V. V. ; PIRKIN, I. A. ; POLYAKOV, A. S. ; OCHKIN, D. V.

Method for calibrating scintillation gamma-spectrometer. Prib. i tekhn.
eksp. no. 5:126-128 3-0 '60. (MIRA 13:11)

(Scintillation spectrometry)

(Calibration)

R5360

S/120/60/000/005/034/051

EO32/E314

21.5200

AUTHORS: Ovechkin, V.V., Pirkin, I.A., Polyakov, A.S.
and Ochkin, D.V.

TITLE: Method of Calibrating a Scintillation Gamma-spect-
rometer 19

PERIODICAL: Pribery i tekhnika eksperimenta, 1960, No. 5
pp. 126 - 128

TEXT: The conversion of the areas under the photopeaks in scintillation γ -spectra to the total intensities of γ -rays, for a medium-sized NaI(Tl) crystal and energies $E_{\gamma} \approx 300$ keV, can only be carried out if the γ -ray spectrometer γ is calibrated in a preliminary experiment. This calibration is usually carried out with the aid of standard γ -ray sources with energies close to the energy of the γ -rays under investigation. However, such standard γ -ray sources are not always available. Calculated data suitable for calibration purposes and applicable to the many practical cases, are largely not available either. An absolute calibration curve covering a wide energy interval can be obtained for a scintillation γ -spectrometer with the aid of γ -sources whose intensities are

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S/120/60/000/005/034/051
EO32/E314

Method of Calibrating a Scintillation Gamma-spectrometer

not standardised, provided each of them has a number of γ -lines with known intensity ratios, including soft γ -quanta with energies ≈ 100 keV (Ref. 1). By definition, the efficiency (relative aperture) of a γ -spectrometer for γ -rays of given energy is given by $\epsilon = S/N = f(E_\gamma)$ where S is the counting rate in the photopeak and N is the total intensity of γ -rays of the given energy emitted into an angle of 4π . The ratio of efficiencies for hard and soft γ -rays emitted by a given source is then

V

$$\epsilon_1/\epsilon_0 = (S_1/S_0)(N_0/N_1) \quad (1)$$

where the subscripts 1 and 0 refer to hard and soft rays, respectively. Since the soft γ -rays are absorbed in the surface layer of the NaI(Tl) crystal (for example, for $E_\gamma = 90$ keV, $\mu = 7.5 \text{ cm}^{-1}$), it follows that $\epsilon_0 = S_0/N_0 \approx \omega_0$

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EO32/E314

Method of Calibrating a Scintillation Gamma-spectrometer

where ω_0 is the relative solid angle subtended by the crystal at the source. The magnitude of S_0 must of course be corrected for the absorption of soft quanta in the crystal envelope and in the source, as well as for the fraction of K x-rays of iodine which escape from the crystal (Ref. 2). Thus, the solid angle ω_0 can be calculated from:

$$\omega_0 = 1/2 \left\{ 1 - R/\sqrt{R^2 + a^2} \right\} \quad (2)$$

where R is the distance from the source to the crystal (diameter $2a$), S_i/S_0 can be measured directly and N_1/N_0 can be obtained from published data. Substituting the values for the various quantities in Eq. (1) for a number of γ -sources, one can obtain the calibration function $\epsilon = f(E_\gamma)$ for a given geometry. The authors have measured this dependence for a NaI(Tl) crystal, 40 mm in diameter and 50 mm long, placed at a

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S/120/60/000/005/034/051

E032/E314

Method of Calibrating a Scintillation Gamma-spectrometer

distance $R = 5.3$ cm from the source ($\omega_o = 3.2 \times 10^{-2}$) The

following γ -sources were employed:

Hg^{203} ($E_o = 71$ keV, $E_1 = 279$ keV, $\alpha_K = 0.159$ (Ref. 3),

$N_o : N_1 = 0.14$)

Cs^{137} ($E_o = 32$ keV, $E_1 = 661$ keV, $\alpha_K = 0.11$ (Ref. 4),

$N_o : N_1 = 0.072$)

$Ce^{144} + Pr^{144}$ ($E_o = 80$, $E_1 = 134$, $E_2 = 700$, $E_3 = 1490$,

$E_4 = 2180$ keV, $N_o N_1 N_2 N_3 N_4 = 7.2 : 15.3 : 3.56 : 0.56 : 1.44$
(Ref. 5);

Se^{75} ($E_o = 140$, $E_1 = 270$, $E_2 = 400$ keV, $N_o N_1 N_2 = 123 : 141 : 22.3$
(Ref. 6)

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X

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S/120/60/000/005/034/051
E032/E314

Method of Calibrating a Scintillation Gamma-spectrometer

In the first two cases the ratio N_0/N_1 was calculated from

α_K taking into account the fluorescence emitted from the K-shell (Ref. 7). As can be seen from Fig. 1 all the

experimental points except for the 134 keV γ -rays from Ce^{144} lie on the continuous curve and agree with the four calculated points $E_\gamma = 280, 661, 1330$ and 2620 keV (full circles) which

were obtained by combining the data taken from Refs 8 and 9 and applying them to our geometry. The experimentally determined function $\epsilon = f(E_\gamma)$ was confirmed by control measurements using the following γ -ray sources Ra^{226} + daughter products ($E_0 = 610$,

$E_1 = 350, E_2 = 770, E_3 = 1120, E_4 = 1760, E_5 = 2200$ keV. X

$N_0:N_1:N_2:N_3:N_4:N_5 = 100:62.5:18.7:45.3:54.3:21.5$ (Refs 10,11).

I^{131} ($E_0 = 640, E_1 = 364, E_2 = 720$ keV, $N_0/N_1/N_2 = 11.6/100/2.4$ (Ref. 12)

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S/120/60/000/005/034/051
EO32/E314

Method of Calibrating a Scintillation Gamma-spectrometer

Since the intensity of the γ rays in the soft part of the γ -spectrum for these isotopes is not well known, ϵ was normalised so that $\epsilon_{610} = 7.3 \times 10^{-3}$ and $\epsilon_{640} = 7.0 \times 10^{-3}$

In addition, it was assumed that $\epsilon_{140} = 2.7 \times 10^{-2}$ in the case of Se⁷⁵¹⁹. The γ -ray spectrum was measured with the aid of a 100-channel kicksorter (AI-100 (AI 100)). A typical

γ -spectrum (Ra²²⁶ in equilibrium with its decay products) is shown in Fig 2. There are 2 figures and 12 references: 1 Swedish, 1 Italian, 4 English and 6 Soviet.

Acknowledgments are expressed to L T Polyakova for assistance in the measurements.

SUBMITTED July 17, 1959

Card 6/6

✓ X

TSETER, E.M.; KHABAKHAPASHEV, A.G.; PIRKIN, I.A.

Gamma rays from the neutron source $Po-^{210}$. Zhur. eksp. i teor.
fiz. 37 no.4:1133-1134 O '59. (MIRA 13:5)
(Gamma rays) (Polonium)

KLIMENOK, B.V.; KONDRAT'YEV, A.A.; Primalni uchastiye: BASYROVA, Z.V.;
YELEPINA, V.I.; ZEMLYANSKIY, A.T.; PIRKIS, L.N.; STARTSEVA, T.K.;
YANTSEN, Ya.Ya.

Counter-current horizontal extractor for processing hard materials.
Izv. vys. ucheb. zav.; neft' i gaz 4 no.2:75-77 '61.

(MIRA 15:5)

(Paraffins) (Diesel fuels)

1

PIKIS, L. ; ... ; KIL - OK, ...

Cardinal ... in the ... (...)

1. ...

ACCESSION NO: AP4009164

S/0152/63/000/012/0057/0059

AUTHORS: Pirkis, L. N.; Bondar', M. I.; Klimenok, B. V.

TITLE: Carbamide deparaffination of hydrofined diesel fuel

SOURCE: IVUZ. Neft' i gaz, no. 12, 1963, 57-59

TOPIC TAGS: deparaffination, carbamide deparaffination, hydrofining, hydrofined diesel fuel, complex formation, complex forming inhibitors, carbamide crystals, air-dried carbamides

ABSTRACT: Investigation of the effect of hydrofining on the carbamide deparaffination of diesel fuel involved the use of refined and unrefined fuels. The carbamide pulp used in all the experiments contained 75% crystalline carbamide and 25% water, the complex formation taking place at room temperature. The same conditions were used in treatment of both the hydrofined and unrefined fuel. Loss of carbamide activity was found smaller in hydrofined than in unrefined fuel, signifying that the complex-forming inhibitors are destroyed in the hydrofining process. The deparaffination effect is considerably reduced by use of carbamide which has been treated with

Card 1/2

ACCESSION NR: AP4009164

unhydrated diesel fuel. The natural depressing agents are destroyed in the process of hydrofining diesel fuel. Repeated use of the water-carbamide pulp for complex formation reduces its activity because surface-active substances (complex forming inhibitors) are adsorbed on the crystalline carbamide pulp. There are considerably fewer complex formation inhibitors in hydrofined than in unrefined diesel fuel. When there are no complex formation inhibitors, the paraffine reacts with air-dried carbamide. Orig. art. has: 2 figures, 2 tables.

ASSOCIATION: Ufimskiy neftyanoy institut (Ufa Petroleum Institute)

SUBMITTED: 25Sep63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: CH, FL

NR REF SOV: 003

OTHER: 000

Card 2/2

PIRKIS, L.N.; BONDARI, M.I.; KLIMENOK, B.V.

Carbamide dewaxing of hydrocarbons: these. fuel. izy. vys. obrab.
zav.; neft' i gaz. t. no. 12-57-59 1973. MIRA 1975.

1. Leningradskiy neftyanoy institut.

KLIMENOK, B.V.; PIRKIS, L.N.; SKACHKO, Ye.V.; KESAREV, M.P.

Using aqueous solution of carbamide for removing paraffin from diesel fuels. Izv.vys.ucheb.zav.; neft' i gaz. no.7:83-89 '58. (MIRA 11:11)

1. Ufimskiy neftyanoy institut.
(Urea) (Paraffins) (Diesel fuels)

PIRKL, A.

Testing the wear of fabrics on a revolving testing machine. p. 29.

(Textil. Vol. 12, no. 1, Jan. 1957. Praha, Czechoslovakia)

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

DOBAS, J.; PIRKL, J.

Fluorescent derivatives of 1,2,3-triazole. VIII. Some derivatives
of phenylnaphtho-(1,2)triazols. Coll Cz chem 25 no.3:912-918
Mr '60. (EEAI 9:12)

1. Organisch-technologisches Laboratorium I. Forschungsinstitut
für organische Synthesen, Pardubice-Rybitvi.
(Triazole)
(Phenylnaphthotriazole)
(Fluorescent substances)

CZECHOSLOVAKIA / Organic Chemistry. Synthetic Organic Chemistry. 0-2

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57432.

Author : Pirkl J., Dobas J.

Inst : Not given.

Title : Synthesis of 4-Amino-4'-Chlorstilbene-2,2'-Disulfoacid.

Orig Pub: Chem. listy, 1957, 51, No 5, 982-983.

Abstract: 4-Amino-4'-chlorstilbene-2,2' disulfo acid (I) synthesized by Zandmeyer's reaction (refer to Ref Zhur-Khimiya, 1956, 52200) from 4-nitro-4'-aminostilbene-2,2'-disulfo acid with subsequent reduction is not a homogeneous substance. It contains impurities of probably 4,4'-bis-(2"-sulfo-4"-aminostyryl)-diphenyl-3,3'-disulfo acid. It is possible to obtain pure I from 4-bezoylamino-4'-aminostilbene-

Card 1/3

54

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

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57432.

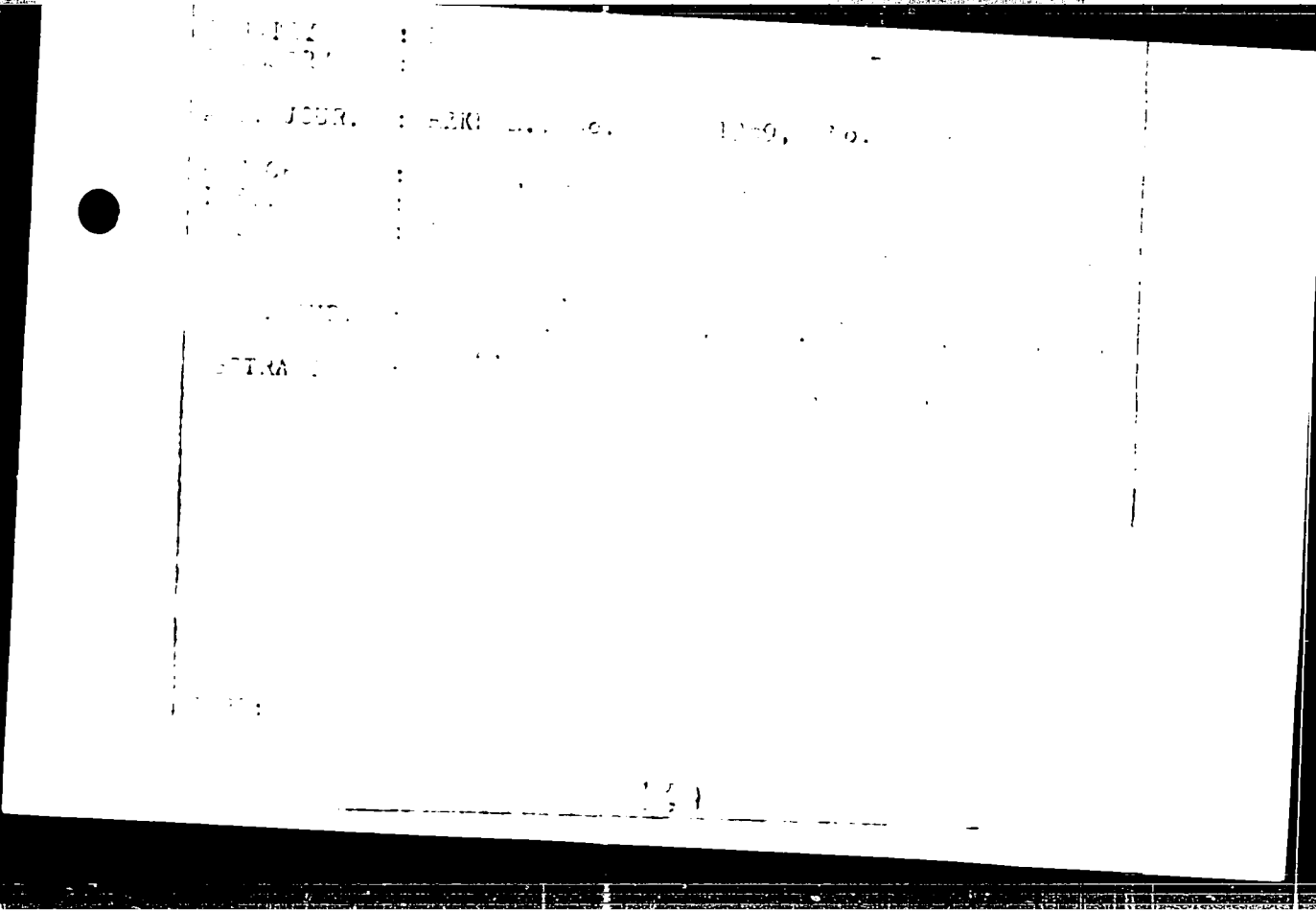
Abstract: molecule of water was crystalized out by boiling the paste-like III material (obtained in the preceding experiment) for 3 hours in a solution containing 300cc of water and 60gr NaOH (salting out NaCl at 70°) with the yield of 63%.

Card 3/3

55

✓ Fluorescent derivatives of the 1,2,3-triazoles. VIII. Some derivatives of the 2-phenylnaphtho[1,2-f]triazoles. J. Dobál and J. Pírk (Výzkumný ústav organické synthézy, Pardubice-Rybníky, Czech.). *Collection Czechoslov. Chem. Commun.* 25, 912-18(1960); cf. *CA* 53, 11354c.---The spectral properties (color and fluorescence) of a series of derivs. of the 2-phenylnaphtho[1,2-f]triazole-8-sulfonic acid were studied. The electrophilic groups in the 4'-position behaved as auxochromes, whereas the electron donor groups OH and NH₂ in the same position behaved simultaneously as auxochromes, bathochromes, and dimmochromes. The electron donor groups in the 3'-position quenched the fluorescence in aq. solns., the electrophilic groups caused no change of the fluorescence and both series of substituents had no effect on the color. The causes of these phenomena were discussed. E. Hrdá

4
1-2A)(WB)



COUNTRY : Czechoslovakia
CATEGORY :
ABS. JOUR. : RZKhim., No. 20, 1959, No. 78658
AUTHOR : Dobas, J., Firk, J., and Hanousek, J.
: Not given
TITLE : Fluorescent Derivatives of 1,2,3-Triazole.
: The Sodium Salts of Some bis- and tria-
: zole-sulfonic Acids
ORIG. PUB. : Collection Czechoslov Chem Commun, 24, No 3, 721-
: 740 (1959)
ABSTRACT : See RZKhim, 1959, No 10, 5819b.

111

COUNTRY : Czechoslovakia
CATEGORY : Organic Chemistry--Synthetic organic chemistry
ABST. JOUR. : REKHEM., NO. 16, 1950, 19. 57247
AUTHOR : Dobas, J., Pirkal, J., and Hanousek, V.
TITLE : Fluorescent Derivatives of 1,2,3-triazole. VII. Sodium Salts of Some Bis- and Tris-triazolesulfonic Acids
ORIG. PUB. : Chem Listy, No. 7, 1950-1951 (1951)
ABSTRACT : The authors have synthesized the Na salts of a number of bis- and tris-triazolesulfonic acids (I-V) and have determined their brightening effect, fastness to light on cotton yarns, and directness. The starting materials used in the synthesis were derivatives of 5-aminobenzotriazole (VI), obtained by the oxidation of azo dyes following coupling of the diazo compounds of aniline, sulfanilic acid, or naphthionic acid with m-phenylenediamine. The

CARD: 1/9

COUNTRY : Czechoslovakia G-2
 CATEGORY :
 ABST. SOUR. : RZhKhim., No. 16 1969, No. 57147
 AUTHOR :
 INST. :
 TITLE :

ORIG. PUB. :

ABSTRACT : characteristic properties of I-7 were determined by methods described earlier (RZhKhim, No 24, 1968, 51675) (the compound, hue of the compound's fluorescence on cellulose, the relative directness factor R_D expressed in terms of the distance from the spot formed by the test compound relative to that of the spot formed by the standard '4,4'-bis-(2-naphtho-(1,2)-triazolyl)-3,3'-dichlorodiphenyltetrasulfonate-6'',6'',6'',8'' of sodium during

CARD: 2/9

COUNTRY : Czechoslovakia G-2
 CATEGORY :
 ABST. SOUR. : RZhKhim., No. 16 1969, No. 57147
 AUTHOR :
 INST. :
 TITLE :

ORIG. PUB. :

ABSTRACT :

paper chromatography, and the brightening effect on cotton are given in that order: I, blue-violet(BV), 1.2, 2; II, BV, G.16, 2; III, blue-

CARD: 3/9

COUNTRY : Czechoslovakia
CATEGORY :

J-2

ABST. JOUR. : J. Polym. Sci. Polym. Chem. Ed. 1967, 5, 1001-1002

52142

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : PV, 0.36, 1-2; IV, blue-BV, 0.02, 2; V, 0.17, 0.03, 2-4. The light-fastness of 1-7 on cotton fibers is greater than that of tri-azoles based on p-phenylenediamine, benzidine, and similar compounds but less than that of varnishes containing a stilbene residue. The bleached yarn shows an insignificant tendency to yellowing on exposure to light. It is synthesized from the hydrogenated Na-salt of 4-(2,6-dimethylphenyl)pyridine which is added or wise.

W.D. 4/9

SYNTHESIS : Catecholoxalic
C.I. 15000

ABSTRACT : ... 15 ... 42

ANAL. FOR
C₁₂H₁₀N₂O₄

ORIG. REF.

ABSTRACT : In the form of a dihydrate to a solution of
0.012 mol of sodium 2-naphthylamino-5-sulfonate
(NII) in 100 ml water together with 100 ml 20%
Na₂CO₃. After stirring for 1 hr the mixture
is heated to 70° and made alkaline with 10 gms
soda. The dye is salted out with 10 gms NaCl,
dissolved in 500 ml water, 20 ml 20% NH₃, and
40 ml C₂H₅N, and oxidized at 80-90° with an
ammoniacal solution of 0.12 mol CuSO₄. Salting
out gives 10 gms of I dihydrate. ... is synthe-

DATE: 5/9

COUNTRY : Czechoslovakia
CATEGORY : G-2
ABS. SOUR. : *[illegible]*
AUTHOR : *[illegible]*
TITLE : *[illegible]*
ABSTRACT : *[illegible]*
The dye is salted out with 70 gms NaCl from the mixture heated to 70°. Following salting out the dye is dissolved in 200 ml water and oxidized at 70° with *NaOCl* solution until the color disappears. The product is salted out and precipitated twice with alcohol from aqueous solution to give the dihydrate of III, yield, gms, III

COUNTRY : Czechoslovakia
CATEGORY :

G-2

ABST. JOUR. : RZhKhim., No. 16 1959, No.

57147

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : is obtained from diazotized Na 2-(4'-sulfo-
naphthyl)-benzotriazole-6-sulfonate (0.03 mol),
a suspension of which is added (about 20°, 30 min)
to a solution of 0.033 mol VII and 20 gms CH₃COONa
in 150 ml water. Following salting out, the dye
is oxidized by refluxing with 0.06 mol ammoniacal
CuSO₄ solution; the product is converted to the
Na salt by heating in water with the addition of
Na₂CO₃ and Na₂S₂O₄; the yield of III dihydrate
is 7.5 gms. IV is synthesized from 0.01 mol

CARD: 7/9

134

COUNTRY : Czechoslovakia
CATEGORY :

ABD. JOUR. : RZhKnia., No. 10, 1970, p. 2530.

7147

AUTHOR :
INSTR. :
TITLE :

ORIG. PUB. :

ABSTRACT : ... at 70° with NaOH; the
yield of V dihydrate is 9.0 gms. For Communi-
cation VI see RZhKnia., No. 13, 1970, p. 2750.
J. Vanecek

DATE: 9/9

CZECHOSLOVAKIA/Optics - Luminescence.

Abs Jour : Ref Zhur - Fizika, No 6, 1959, 14133

Author : Dobas, J., Pirkl, J., Handusek, V.

Inst : -
Title : Fluorescent Derivatives of 1,2,3 Triazol. III. Sulphonic
Acids of Derivatives of Naphtotriazols, Based on 4-amino-
diphenol.

Orig Pub : Collect. Czechosl. chem. commun., 1958, 23, No 5, 926-931

Abstract : Translation from Chem. listy 1957, 51, 1122.

Card 1/1

- 130 -

Distr: 4E3d

2/
Fluorescent derivatives of 1,2,3-triazole. VII. Sodium salts of some bis- and tria-triazolesulfonic acids. Jaroslav Dobáš, Jaromír Píkl, and Vítězslav Hanousek (Výzkumný ústav org. synth., Pardubice-čtyřlístí). Collection Czechoslov. Chem. Commun. 24, 739-43(1959)(in German). See C.A. 53, No. 9103h. Jiri Píkl

6.
2 May

PIRKL, J.; DOBAS, J.

SCIENCE

Periodical COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS. SBORNÍK CHEKOSLOVATSKÝCH
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disulfonic acid. In German. p. 152.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959. Uncl.

PIRKL Jaroslav

CZECHOSLOVAKIA/Organic Chemistry Synthetic Organic Chemistry 3-2

Abs Jour: Ref Zhur-Khiz., No 13 1958, 43397

Author : Petas Jaroslav Pirk Jaroslav Hancusek Vitezslav

Inst :
Title : Fluorescent Derivatives of 1,2,3-Triazole. I. Sulfonic Acids of Bis-Naphtho-Triazoles Based on p-Phenylene-Diamine, Benzidine, Benzidine Sulfone and Diaminodiphenyl-Urea. II. Sulfonic Acids of Benzo- and Naphtho-Triazoles Based on 4,4'-Diaminostilbene-2,2'-Disulfonic Acid. III. Sulfonic Acids of Derivatives of Naphtho-Triazole Based on 4-Amino-Diphenyl. IV. Color and Fluorescence of Some Derivatives of 2-Phenylnaphtho-[1,2]-Triazole V. Acyl-Derivatives of 2-(3' and 4'-Amino-phenyl)-Naphtho-[1,2]-Triazole Sulfonic Acids

Pub: Chem. listy, 1957, 51, No 6, 1103-1112, 1113-1124, 1125-1126, 1127-1135, 1136-1141.

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Abstract: I. A number of polysulfonic acids of bis-naphtho-triazoles have been synthesized, which are derivatives of p-phenylene diamine, benzidine (I), benzidine sulfone, and diaminodiphenyl-urea. Investigated were their color, fluorescence (F) on cellulose, bleaching action on cotton, substantive properties, and absorption in ultraviolet light, with the view of a possible utilization of these compounds as optical clearing agents. It follows from a detailed discussion of correlations between properties and chemical structure that substitution in the naphtho-triazole ring has no effect upon substantial changes in optical properties, while substitution by sulfogroups, chlorine, CH₃- and CH₃O-groups in the middle portion of the benzene affects considerably the

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optical and color properties of the derivatives under study, all the properties being altered concomitantly. A considerable role in the retention of desirable properties of optical bleaching agents is played by coplanarity of the molecule. The substances thus obtained are of a relatively low fastness to light. A solution of 0.1 mole of phenyl-diazonium chloride (150 ml) is added dropwise (0-5°, 0.5 hour) to a solution of 0.12 mole of 2-aminonaphthalene-6-sulfonic acid (II) in 1.4 liters of water and 30 ml 2.5 N solution of Na_2CO_3 . After 2 hours at 5° the mixture is heated to 80°, salted out with NaCl, the dyestuff paste is dissolved in 2.5 liters of water at 80° and is oxidized by addition of 150 ml of a solution of NaOCl (0.13 g NaOCl per 1 ml). After

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dilution with water to 8 liters there are added 250 ml of the NaOCl solution, and by an addition of NaCl 20 g Na-salt of 2-phenyl-naphtho-[1,2]-triazole-7-sulfonic acid are salted out. The dyestuff obtained by coupling 0.1 mole p-nitrophenyl diazonium chloride with 2-naphthylamine-5,7-disulfonic acid (III), is separated by salting out, dissolved in 2.5 liters of water and oxidized with NaOCl. The resulting nitro-triazole is reduced according to Fechamp, without being isolated. After removal of Fe the soda filtrate is salted out and made acid to Congo with HCl (acid), to get the mono-Na salt of 2-(4'-amino-phenyl-naphtho-[1,2]-triazole-6,8-disulfonic acid, yield 78% (determined volumetrically with NaNO_2).

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