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مرکز مدارک علمی

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شیمی

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از شماره ۱۱۸ تا ۱۵۰

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فتوکپی اصل مقاله ۵ ریال برای هر صفحه

شمارهٔ برگهٔ مرکز خدمات کتابداری ۳۱۱۲ ـ ۵۰م

این نشریه در چاپخانه مؤسسه تحقیقات و برنامه ریزی علمی و آموزشی به چاپ رسیده است .

مقدمه :

مقاله نامه شیمی بخش " الف " به منظور آشنا ساختن محققان و متخصصان رشته های مختلف شیمی نظری (شیمی فیزیک ، شیمی تجزیه ، شیمی معدنی ، شیمی آلی ، شیمی بیولوژی) با تازه ترین اطلاعات در زمینه های مذکور منتشر میگردد . این مقاله نامه حاوی چکیده و فهرست مقالاتی میباشد که از آخرین مجلات رسیده به کتابخانه مرکز مدارک علمی استخراج شده است .

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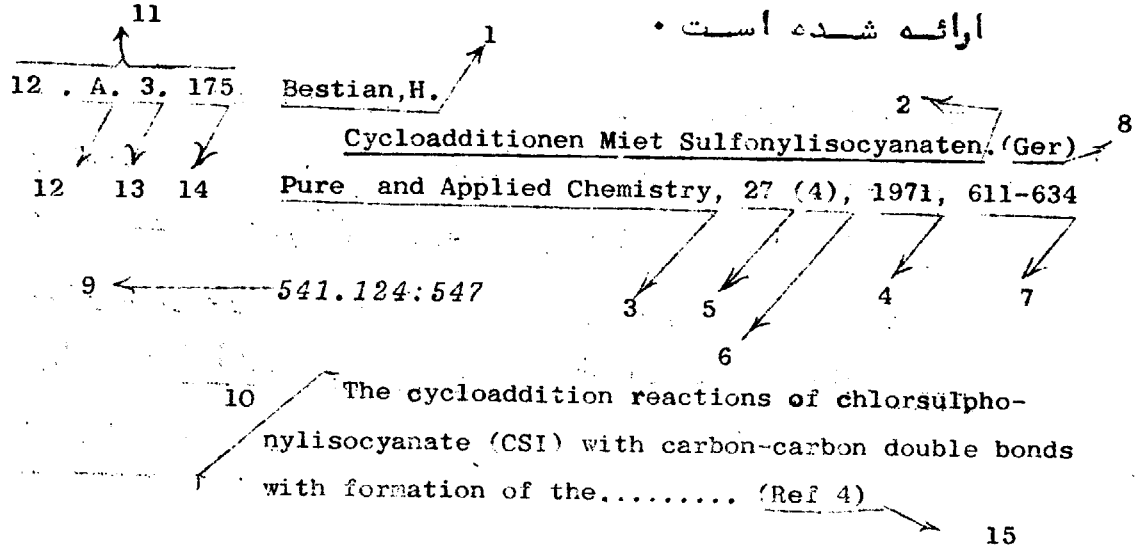

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۳ـ نام نشریه

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12B.3.150 McLean,J.W.;Sced,I.R. " Bonding of Dental Porcelain to Metal II. The Base-Metal Alloy/Porcelain Bond." Transaction and Journal of the British Ceramic Society, 72(5),1973, 235-238

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12B.3.127 Hamed,M.G.E.;et all. " Effect of Adding Sweet Potato Flour to Wheat Flour on Physical Dough Properties and Baking." Cereal Chemistry, 50(2),1973,140-146

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12B.3.131 Taheri,M.;Calvert,S. " Removal of Small Particles from Air by Foam in a Sieve-Plate Column." Journal of Air Pollution Association, 18(4),1968,240-245

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12B.3.133 Moss,R.L. " Alloy Films of the Platinum Metals as Model Catalysts for Research."Platinum Metals Review,17(3), 1973,90-95

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12B.3.122 Tennyson,R.N.;Buckingham,P.A. " Synthetic Natural Gas(SNG)." Oil & Gas Journal, 71(16),1973,99-102

12A.3.150 Holick,M.F.;et all.

Isotachysterol$_3$ and 25-Hydroxyisotachysterol$_3$: Analogs of 1,25-Dihydroxyvitamin D$_3$

Science, 180(4089),1973,964-966

577.16D$_3$

Isotachysterol$_3$, 25-hydroxyisotachysterol$_3$ and isovitamin D$_3$ have been synthesized and tested for biological activity. Like 1,25-dihydroxyvitamin D$_3$, isotachysterol$_3$ stimulates intestinal calcium transport and bone calcium mobilization in anephric rats, whereas 25-hydroxyvitamin D$_3$ is biologically active in normal rats it is inactive in anephric rats. (Ref 11)

peared in the literature, clinical determinations of certain metabolites and soluble enzymes by means of enzyme electrodes seem quite feasible. Such devices may be made highly specific by the use of appropriate enzymes and a high degree of accuracy can be obtained. Instantaneous and continuous determinations can be made from physiological fluids, and undesirable physiologic responses can theoretically be minimized, thus making long-term clinical monitoring a possibility. Enzyme electrodes may also have a useful lifetime and meet other practical requirements.(Ref 15)

12A.3.149 Krishnamurthy,S.;Kartha,V.N.R.

Vitamin A-Induced Haemolysis and Lipid Peroxidation: Effect of Vitamin E,D and Antioxidants.

Current Science, 42(7),1973,225-227

577.16.A

Vitamin A-induced haemolysis of rabbit and human erythrocytes is inhibited by Vitamins E,D and ascorbic acid, and by glutathione and cysteine. The A-induced haemolysis is not related to lipid peroxidation of the erythrocyte membranes, nor is it due to glutathione instability.

577.1 *Biochemistry*

12A.3.147 Saeed,S.A.;Warren,B.T.

On the Mode of Action and Biochemical Properties of Anti-Inflammatory Drugs—I.

Biochemical Pharmacology, 22(16),1973, 1955-1969

577.1:615.276

The horse-radish peroxidase-hydrogen peroxide (HRP-H_2O_2) catalyzed oxidation of o-dianisidine was inhibited by indomethacin, oxyphenbutazone, mefenamic acid, phenylbutazone and p-acetamidophenol. The greatest inhibitory effect (ID_{50} 0.014 mM) was obtained with indomethacin, and its mode of action in this system has been examined further. The results obtained suggest that indomethacin acted by competing with o-dianisidine for peroxidase and hydrogen peroxide or peroxidasehydrogen peroxide complexes. (Ref 15)

12A.3.148 Gough,D.A.;Andrade,J.D.

Enzyme Electrodes.

Science, 180(4084),1973,80-84

577.15[541.135.52]

From the discussion of electrodes and enzymes herein, and from the accounts of enzyme electrodes that have ap-

12A.3.146 Chatterjee,S.K.;Kazemie,M.;Matthaei,H.

Separation of the Ribosomal Proteins by Two-Dimensional Electrophoresis. II.

Hoppe Seyler's Zeitschrift für Physiologische Chemie,(354), 1973,481-486

547.963.3.06

Ribosomal proteins from rabbit reticulocytes were separated by two-dimensional gel electrophoresis. Forty proteins were found in the large subunit, and 33 in the small subunit. The proteins were numbered following the system of Kaltschmidt and Wittmann. (Ref 19)

respectively could be bound. Combined, the large and small subunits synthesized more than 30 times as much polyphenylalanine in the poly(U)-coded system as the sum of the separate yields. Purity of the subunits was also checked by RNA analysis in polyacrylamide agarose gels. Proteins extracted from the subunits were separated by electrophoresis in polyacrylamide gels containing either urea or sodium dodecyl sulfate. The approximatemolecular weights of 29 protein bands were determined in sodium dodecyl sulfate gels. (Ref 27)

12A.3.145 Granboulan,P.

Maturation du Bactériophage λ Dans des Conditions dissociant la Synthèse des Protines de Celle du DNA. (Fr)

Biochimie, 55(2),1973,143-151

547.963.3.05

Conditions in which the DNA replication of bacteriophage is dissociated from RNA and protein synthesis have been studied. Such a system can be obtained by inducing a thymine deficient bacteria lysogenic for λ in the absence of thymine, then adding thymine with chloramphenicol. It has been demonstrated that the absence of DNA replication allows translation of protein competent for phage assembly. No intermediate structure has been found. The possibility for the phage maturation to take place at the level of the membrane is discussed.

Ser is an unstable hemoglobin with low oxygen affinity. From studies made in the intact cells, the main compensatory mechanism for the decreased oxygen affinity was found to be a Bohr effect, the 2.3 DPG being only moderately high. Moreover the molecular mechanisms of the instability seem to be due mostly to the formation of hemichromes. They appeared exceptionnally fast in Vitro and attained completion within one hour. Even though they were still chemically reducible, they were no longer reducible by a highly purified NADH-methemoglobin reductase preparation.

12A.3.144 Kazemie,M.;Chatterjee,S.K.;Matthaei,H.

Preparation and Characterization of Ribosomal Subunits.(I) Hoppe-Seyler's Zeitschrift fur Physiologische Chemie,(354), 1973,417-480

547.963.3.05

Optimum conditions for the preparation of purified and active subunits from rabbit reticulocyte ribosomes were determined. Subunits were obtained by incubation of polysomes with 500mM KCl, 5mM $MgCl_2$ and 0.5mM puromycin. The $Mg^{2\oplus}/K^{\oplus}$ ratio during incubation was critical. The best salt conditions for separation in the sucrose gradient were 500mM KCl and 2.5mM $MgCl_2$. The conditions during collection of the subunits from pooled gradient fractions were studied also. Per nmol of recombined ribosomal subunits, up to 400 and 200 pmol Phe-$tRNA^{Phe}$ and Met-$tRNA^{fMet}$,

be air-dried and powdered before extraction. The main cannabinoids in the extract are determined by g.l.c.using androst-4-ene-3,17-dione as internal standard. The coefficient of variation for repeated determination of THC on a single extract was 1.4%;for all operations, including sampling and extraction, it was 2.7%. Duplicate analyses of 24 samples of herbal cannabis and of 20 reefers, all of varying potency, showed that the errors fell within the expected limits for THC,CBD and CBN. The method is simple and rapid;duplicate determinations can be completed in about $2\frac{1}{2}$ h.

12A.3.142 Delpech,B.;Khuong-Huu,Q.

Alcaloides Steroidiques CLXII Amination Allylique d'Olefines Steroidiques par l'Intermediaire de Complexes Mercuriques.

Tetrahedron Letters, (17), 1973, 1533-1536

547.94'92

12A.3.143 Wajcman,H. Leroux,A.;Labie,D.

Functional Properties of Hemoglobin Hammersmith.

Biochimie, 55(2),1973,119-125

547.963.4

Hemoglobin Hammersmith 42 (CD 1) Phe ⟶

R is the mass of the other 17-substituent. Extensive deuterium labelling studies are carried out to verify the modes of formation of these and related ions which are of diagnostic value in analytical work.

12A.3.140 Gossauer,A.;Hirsch,W.

Synthesen Von Gallenfarbstoffen-II Totalsynthese ded Phycocyanobilins. (ger)

Tetrahedron Letters,(17),1451-1454

547.93.05

12A.3.141 Fairbairn,J.W.;Liebmann,J.A.

The Extraction and Estimation of the Cannabinoids in Cannabis Sativa L. and its Products.

Journal of Pharmacy & Pharmacology, 25(2),1973,150-155

547.93.056

A convenient method for the complete extraction of the cannobinoids from fresh plant material, herbal cannabis, cannabis resin and reefers, has been devised. Chloroform was a more suitable solvent than light petroleum or ethanol and simple shaking of powdered material with the solvent was effective. Fresh material should

affords 1,2-dibenzyl-1,2-dihydro-2,5-diphenylpyrazine (59%) and 1,2-dibenzyl-1,2-dihydro-3,6-diphenylpyrazine (21%),contrary to previous reports. In a series of reactions of N-alkylphenacylamines thermally induced self-condensation is followed by a regiospecific 1,3-alkyl shift to a substituted carbon atom, to given in good yield 1,2-dialkyl-1,2-dihydro-2,5-diphenylpyrazines at temperatures ranging from ambient to 140°. The reaction of phenacyl bromide with methylamine gives N-methyldiphenacylamine, then the reactive 1,4-dihydro-1,4-dimethyl-2,6-diphenylpyrazine. The latter readily forms an addition product with methanol and separately forms an odd-electron species characteristic of 1,4-dialkyl-1,4-dihydropyrazines.

12A.3.139 Middleditch,B.S.;Vouros,P.;Brooks,C.J.W.

Mass Spectromery in the Analysis of Steroid Drugs and their Metabolites:Electron-Impact-Induced Fragmentation of Ring D.

Journal of Pharmacy & Pharmacology, (2), 1973,25,143-149

547.92:543.51

Certain steroid drugs, their metabolites, and related model compounds which possess a 17-hydroxy group can be converted to trimethylsilyl ethers which give characteristic ions of type $[128 + R]^+$ in their mass spectra, where

12A.3.137 Elkik,E. ; Assadi-Far,H.

Reactivity of Phenacy Fluoride in Alkaline Medium.

Bulletin de la Société Chimique de France,1973,202-210 ,Jan.

547.572.1

The action of various alkaline reagents with phenacyl fluoride has been studied. Depending upon the basicity of the reagent, two main reactions occur:

— A ttack on the carbonyl carbon atom which leads to ketolisation followed, in most cases, with elimination of a fluorine atom, the reaction product still containing a fluorine atom.

— Attack on the fluoromethyl carbon atom leading to non-fluorinated products by substitution of the fluorine atoms.

These result have been compared to those obtained by different authors and, under the same reaction conditions, to those given by phenacyl chloride and bromide.

12A.3.138 Lown,J.W.;Akhtar,M.H.

Self-Condensation and Rearrangement of N-Alkylphenacylamines.

Journal of the Chemical Society, Peikin Transaction I, (7), 1973, 683-686

547.572.1.002

The reaction of phenacyl bromide with benzylamine

12A.3.136 Jahelka,J.;Sterba,V.;Valter,K.

Nitrosation Kinetics and Mechanism of Resorcinol and ITS O-Methyl Derivatives.

Collection of Cszechoslovak Chemical Communications, 38(3),1973, 877- 883

547.565.2[542.958.2]

Nitrosation kinetics and mechanism of resorcinol and its O-methyl derivatives have been studied in aqueous buffers and mineral acids. The structure and proportion of individual isomers were determined after transformation of the unstable nitroso compounds into the respective nitro derivatives. Non-catalyzed or acid-catalyzed decomposition of the dienone intermediate A into oxime at $p^H < 2.5$ and the reaction of the undissociated phenol with protonated nitrous acid at $p^H > 2.5$ are the rate-determining steps of nitrosation of resorcinol and 3-methoxyphenol. In the case of 1,3-dimethoxybenzene the decomposition of the intermediate into nitrosodimethoxybenzene is rate-limiting. The difference in the overall velocities sepends on the ratio of the decomposition rates of the intermediate into the products and into starting substances, because the rates of the reaction of protonated nitrous acid with the substrates are comparable and close to rates of diffusion-controlled processes.

structure et la biogenese des acides mycoliques des corynebacteries, des Nocardia et des Mycobateries suggere l'existence d'une correlation phylogenetique, dans un sens determine, entre les trois genres bacteriens meationnes. II serait interessant d'examiner d autres genres d'Actinomycetales en vue de rechercher la presence eventuelle des acides mycoliques. La biogenese de certains macrolides rencontres chez differentes especes de Streptomyces semble comporter une etape de condensation mycolique. (Ref 43)

12A.3.135 Jahelka,J.;Machackova,O.; Sterba,V.

Kinetics and Mechanism of Formation of Substituted Benzendiazonium Ions From Benzenediazohydroxides.

Collection of Cszechoslovak Chemical Communications, 38(3),1973,706-710

547.556.7.03

The rate constants of N—O bond splitting and the dissociation constants have been determined for six m-and p-substituted benzenediazohydroxides and the respective Hammett ϱ constants of the both reactions have been calculated. The N—O bond splitting of benzenediazohydroxides is subject to general acid catalysis, the value of the Bronsted coefficient α being 0.19.

547 *Organic Chemistry*

12A.3.132 Reich,C.J.;Sullivan,G.R.;Mosher,H.S.

Chiral 1-Deuterio Alcohols. Synthesis and Determination of Enantiomeric Purity by Chiral Lanthanide NMR Shift Reagents.

Tetrahedron Letters, (17), 1973, 1505-1508

547.260.2:541.63

12A.3.133 Etemadi,A.H.

Les Acides Mycoliques Structure, Biogenese Et Interet Phylogenetique.

Exposes' Annuels de Biochimie Medicale, 1967(28),77-109 (Ref 111)

547.297.1

12A.3.134 Etemadi,A.H.

Correlations Structurales et Biogenetiques des Acides Mycoliques en Rapport Avec la Phylogenese de Quelques Geners D'actinomycetales.

Bulletin de la Societe' Chimique et Biologique, 49(6), 1967, 695-706

547.297.1[576.852]

L'état actuel de notre connaissance sur la

12A.3.130 Douglas,J.F.;Shahinian,S.

GLC Determination of Methaqualone in Plasma.

Journal of Pharmaceutical Sciences, 62(5),1973,835-836

543.544.45[612.129.1]

Simple GLC method was developed for the determination of methaqualone in plasma. The method is rapid and quantitative over the 0.1-10-mcg./ml.range. (Ref 4)

12A.3.131 ———.

High Sensitivity Amino Acid and Peptide Analysis at the Carnegie Institution of Washington's Geophysical Laboratory.

Aminco Laboratory News, 29(1), 1973, 4-7. (Ref 7)

543.865

12A.3.129 Collomb,R.;Devallez,B.;Vergnaud,J.M.

Chromatographie en Phase Gazeuse. Methode de Calcul du Temps de Rétention d'un Soluté en Chromatographie avec Programmation Linéaire de la Pression du gaz Vecteur. (Fr)

Comptes Rendus de l'Academie de Sciences.C, (1),1973,1-4

543.544.25

Une méthode de calcul du temps de rétention des solutés élues en chromatographie avec programmation linéaire de la pression du gaz vecteur, est proposée. La théorie de la propagation repose sur la fait suivant: on assimile la colonne traversée par le gaz en regime transitoire, à une multitude de petits tronçons de colonnes dans lequel le regime est stationnaire. Ainsi, pour chaque tronçon, les calculs peuvent être réalisés de la même façon qu'en chromatographie classique. Les calculs complets necessitant un ordinateur, nous présentons une courbe permettant de calculer par lecture le temps de rétention d'un soluté en fonction des conditions opératoires. (Ref 5)

12A.3.128 Granger,R.Vergnaud,J.M.

Théorie de la Retention Dans le Cas D'une Chromatographie Realisée avec une Colonne dont la Concentration du Sovant Varie avec l'Inverse de la Racine Carrée de l Abscisse Longitudinale. (Fr)

Comptes Rendus de L'academie de Sciences.C, (6),1973, 475-481

543.544.25

Nous presentons la théorie de la retention de solutés élues dans une colonne de chromatographie particulière en ce sens que la concentration du solvant decroit le long de la colonne. Cette loi de décroissance de la concentration du solvant est sensiblement la même que la loi de décroissance de la concentration maximale d'un soluté le long de la colonne. Ainsi, la concentration du squalane choisi comme solvant varie avec l'inverse de la racine carrée de l'abscisse longitudinale prise le long de la colonne. Cette méthode de chromatographie devrait pouvoir se révéler intéressante en chromatographie préparative. (Ref 4)

543 *Analytical Chemistry*

12A.3.127 Eckshlager,K.

Theory on Information as Applied to Analytical Chemistry. IV. Expression of the Results of Quantitative Chemical Analyses.

Collection of Czechoslovak Chemical Communications, 38(5) 1973,1330-1332

543

In the paper attention is called to the lack of uniformity in expressing the results of quantitative analyses. It is suggested to give the most probable result and its uncertainty according to Shannon's relation together with the data on the number of paralled determinations from which the results has been drawn. Tabellated values are presented allowing an easier calculation of the uncertainty from the standard deviation and the range of results.

12A.3.125 Epiotis,N.D.;Cherry,W.

Nonbonded Attraction in Organic Molecules and Substituent Effects on Nonbonded Attraction.

Journal of the Chemical Society, Chemical Communications, (8),1973,278-279

541.57[547]

Lone pairs can interact with each other and also with adjacent bonds, and this results in net lone pair attraction which is subject to substituent effects; experimental results are in agreemant with these general qualitative conclusions.

12A.3.126 Mango,F.D.

The Conservation of Coordinate Bonding and the Catalysis of Allowed and Forbidden Reactions.

Tetrahedron Letters, (17),1973,1509-1512

541.572.5[541.128]

12A.3.123 Greenwood,N.N.

International Table of Atomic Weights.

Chemistry in Britain ,9(2),1973,52-53

541.23

12A.3.124 Ogilvie,J.F.

Intense Vibrational Absorption Spectra of Trapped Triatomic Radicals.

Nature, 243(5404),1973,210-212

541.515:543.422

Intense spectra of triatomic radicals have been produced by means of a surface reaction of hydrogen atoms, formed by a microwave discharge in flowing gas, with di - atomic oxides. Failure of this method to produce detectable formyl radicals is attributed to existence of an activation energy greatly exceeding 200 cm^{-1} for reaction of H with CO. New NH and ND fundamental vibrations of HNO and DNO, at 2,719 and 2,043 cm^{-1}, are now consistent with the known large bond length. The weak absorption due to the bending mode of DO_2 has at last been located at 1,085.3 cm^{-1}, enabling a vibrational assignment for hydroperoxyl radical to be completed.

sulphate, nitrate, iodide, bromide and chloride cause a sharp drop of the anode potential to low values. The formation of pits has been observed with halides only. The effect of sulphate on the oxide formation rate, unitary rate, and the electric field has been investigated in borate and phosphate solutions. Use of phosphate for repairing the pits formed in halide solutions is described.

12A.3.122 Kindl,B.& et all.

General Model for the Asdorption of Gases on Solids. Journal of the Chemical Society, Faraday Transactions I. (7),1973,1162-1172

541.183.26

A three parameter model is proposed to describe adsorption of gases on solid surfaces. The model adequately describes data which follow a Langmuir isotherm and data which follow a Dubinin isotherm. Our model is based on the assumption that the surface site energies follow a frozen Maxwell-Boltzmann distribution. All the parameters calculated appear to have definite physical significance and an attempt is made at attaching physical meaning to their observed modes of behaviour. (Ref 21)

541 Physical Chemistry

12A.3.120 Smith,F.J.

Standard Kilogram Weights.

Platinum Metals Review, 17(2), 1973, 66-68

54.081

The original metric standard of weight adopted in 1799 was a kilogram fabricated from platinum. The present international standard kilogram was made nearly a century ago from 10 per cent iridium-platinum. Johnson Matthey was deeply concerned with this work and since then has regularly supplied further national prototypes and working standards to a strict specification. (Ref 4)

12A.3.121 Ammar,E.A.

Effect of Some Anions on the Anode Film of Aluminium.

Corrosion Prevention & Control,19(2),1973,8-11

541.13[620.193]

The effect of various aanions on the stability of the anode film formed by galvanostatic anodization of Al in borate solution has been studied. Carbonate, phosphate, succinate, and oxalate are capable of sustaining the process of oxide growth. On the other hand, sulphite, sulphate, thio-

54 *Chemistry*

12A.3.118 Mason,B.

Chemistry of the Moon's Surface,
Chemistry in Britain 9(10),1973,456-461

54[523.3]

It's not made of green cheese—and there's no man there either. Yet analysis of the rocks brought back from the moon has certainly not disappointed geologists and chemists. Among the fascinating facts that have emerged are three new minerals, unusually high concentrations of certain elements, and a predominance of radiogenic isotopes of lead. It is still too early to propound a comprehensive theory of the moon's origin and evolution; but the results so far show that the material of the moon was chemically fractionated, that the surface rocks are igneous in origin, and that volcanic activity ceased and the moon became a passive object 3000 million years ago. (Ref 10)

12A.3.119 Letokhov,V.S.

Use of Lasers to Control Selective Chemical Reactions.
Science, 180(4085), 1973,451-457. (Ref 32)

54[621.375.826]

Journal Title	Year, Volume (issue)
Journal of Pharmaceutical Sciences	1973, 62, (5)
Journal of Pharmacy & Pharmacology	1973, 25, (2)
Nature	1973, 243, (5404)
Platinum Metals Review	1973, 17, (2)
Science	1973, 180, (4084) (4085) (4089)
Societe Chimique Belges, Bulletin	1967, 49, (6)
Societe Chimique de France, Bulletin	1973, Jan
Tetrahedron Letters	1973, (17)

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Chemistry in Britain	1973, 9 , (2)(10)
Collection of Cszechoslovak Chemical Communications	1973, 38 , (3)(5)
Corrosion Prevention & Control	1973, 19 , (2)
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Exposes Annuels de Biochimie Medicale	1967, 28
Hoppe-Seyler's Zeitschrift für Phsiologische Chemie	1973, (354)
Journal of the Chemical Society, Chemical Communication	1973, (8)
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