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**SCIENTIFIC INFORMATION REPORT**  
**CHINESE SCIENCE**

(33)

Summary No. 5054

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C-O-N-F-I-D-E-N-T-I-A-L

SCIENTIFIC INFORMATION REPORT

Chinese Science (33)

This is a serialized report consisting of unevaluated information prepared as abstracts, summaries, and translations from recent publications of the Sino-Soviet Bloc countries. Individual items are unclassified unless otherwise indicated.

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TECHNICAL SCIENCES

CHINESE RESEARCH IN BLAST-FURNACE SLAGS -- Peiping, Scientia Sinica, Vol 12, No 8, Aug 63, pp 1249-1250

[The following is extracted From an English-language article, entitled "Activities in Liquid CaO-SiO<sub>2</sub> and CaO-Al<sub>2</sub>O<sub>3</sub> Slags," by Tsou Yuan-hsi (6760/0337/8764), Chou Chi-cheng (0719/4949/4453), and Chao Peng-nien (6392/1756/1628), all members of the Institute of Metallurgy, Chinese Academy of Sciences, Shanghai. Additional data contained in the source are also presented below.]

In a recent paper, activity values for CaO in liquid CaO-SiO<sub>2</sub> slags at 1,600° obtained by means of the equilibrium CaO (in slag) + C =  $\frac{Ca}{Sn}$  (in Sn) + CO have been reported. A similar study has now been carried out on the CaO-Al<sub>2</sub>O<sub>3</sub> system, with or without the addition of SiO<sub>2</sub>....

For the "CaO-saturated" composition, our value for  $a_{CaO}$  is 0.616 referred to pure solid CaO as the standard state, while a value of unity has been adopted by the other investigators in accordance with the CaO-Al<sub>2</sub>O<sub>3</sub> phase diagram. Since our  $a_{CaO}$  value for the composition is the mean of five determinations, it seems most likely that the above-mentioned discrepancy is caused by an error in the phase diagram, and a redetermination of the liquidus at the CaO side is very desirable.

In a similar manner,  $a_{Al_2O_3}$  values in liquid CaO-Al<sub>2</sub>O<sub>3</sub> slags at 1600° referred to pure solid Al<sub>2</sub>O<sub>3</sub> as the standard state have been measured by the study of the reaction

$$Al_2O_3 \text{ (in slag)} + 3 C = 2Al \text{ (in Cu)} + 3 Co \text{ in a graphite crucible under one atmosphere of CO....}$$

Sanbongi [representative of Tohoku University] and his coworkers have studied the equilibrium

$$SiO_2 \text{ (in slag)} + 2 H_2 = Si \text{ (in Fe)} + 2 H_2O \text{ in CaO, SiO}_2, \text{ and Al}_2O_3 \text{ crucibles with a view to evaluating the activity of SiO}_2 \text{ in liquid blast-furnace slags, which were, however, saturated with the crucible material. To overcome this difficulty, the present authors have studied the above reaction using cooper as the solvent metal contained in a molybdenum-lined silica crucible. Some preliminary data on } a_{SiO_2} \text{ at 1600°}, \text{ referred to Cristobalite as the standard state, in the high } SiO_2 \text{ range of the CaO-SiO}_2 \text{ system have been obtained.... One } a_{SiO_2} \text{ value for the Ca}_2 \text{SiO}_4 \text{-saturated composition, which has already been reported in a previous paper, is also included.}$$

C-O-N-F-I-D-E-N-T-I-A-L

This paper is based on nine references: four English, four Japanese, and one Chinese.

CHINESE RESEARCH ON METALS -- Peiping, Chung-kuo K'o-hsueh Wen-chai (Science Abstracts of China: Technical Science Series), No 2, 1963, p 12

[The following is an English abstract of an article, entitled "A Study of Ultra-high Frequency Lithium Zinc Ferrites," by Wang Hung (3769/7703) and Yin Chih-wen (3009/0037/2429), which was originally published in the Kuei-suan-yen-hsueh-pao (Silicate Journal), Volume 1, No 4, 1962, pages 90-100.]

The effects of the fabrication process of lithium-zinc ferrites from a cadmium-magnesium and cobalt additive on the magnetic properties of the ferrites were studied. The experimental results have shown: (1) the addition of cadmium and magnesium oxides to a given composition of lithium-zinc ferrite would give a little improvement to the electrical and magnetic properties of the ferrite; (2) an optimum fabricating condition would make an improvement on the electric and magnetic parameters of the ferrites; and (3) a proper addition of nickel and cobalt oxides would increase the quality factor (Q-value) and also the using frequency of the ferrites.

CHINESE TRANSLATION OF FOREIGN METALLURGICAL RESEARCH -- Peiping, Yen-chin K'uai-pao (Express Bulletin on Metallurgy), No 14, 12 May 63

[The following four articles from Russian and English publications have been translated into Chinese and published in the above source.]

1. "DI-1 Stainless Steel," by M. F. Alekseyenko (Soviet), et al., originally appearing in Stal (Steel), No 2, 1963, pages 199-162, translated by Ch'en Jun-fu (7115/3387/3947), under the direction of Hsu Tso-lin (1776/0155/7207).
2. "Application of Natural Gases at the Four Blast Furnaces at the Sparrows Point Steel Mill," (author unknown), originally appearing in Blast Furnace and Steel Plant, Volume 15, No 11, 1962, pages 1083-1085, abstracted and translated by Hsu Jen (6079/0088), under the direction of Dh'en Lang-chiu (7115/2597/4428).
3. "Quartz Sand for the Making of Steel Ladles," by Yu. S. Krivchenko (Soviet) et al., originally appearing in Metallurgy (Metallurgist), No 2, 1963, pages 17-20, translated by Hsu Jen (6079/0088), under the direction of Hsu Tso-lin (1776/7155/7207).

4. "New Type of High Carbon Steel Cold Chisels," by Tadaichi Akazawa, originally appearing in Toku Shu Ko (Special Steel), Volume 11, No 10, 1962, abstracted and translated by Chiang Chih-ming (5592/2482/1380), under the direction of Hsu Tso-lin (1776/0155/7207). (FOR OFFICIAL USE ONLY)

CHINA PRODUCES TRANSISTOR RADIOS -- Peiping, Jen-min Jih-pao, 10 Sep 63, p 4

China has experimentally produced 8 types of transistor radios which have recently been certified as completely satisfactory by the concerned departments. Of these 8 models, 3 are relatively advanced 6 - and 8 - transistor types which receive the broadcast band or both the broadcast and short-wave bands. One of these, a portable model, weighs only a little over 2 chin, and one is only 4 ts'un long and a little more than 2 ts'un wide and can easily be carried in a pocket. Still another type is a relatively large table model. These three types are presently very common on the international transistor radio market.

The portable model is the Mei-to 28 A, made in Shanghai. It has eight transistors and can tune both the broadcast and short-wave bands. It is highly sensitive and can receive Peiping broadcasts in the fringe areas. It is fitted with a short-wave antenna which can be extended.

The pocket model is the Sung-hua-chiang [Sungari River] 601, made in Harbin. It has six transistors, and its reception is comparable to that of a five tube radio. [A photograph of this model, held in the palm of the hand, accompanies the article.]

The table model is the Fei-lo 2 J I, made in Shanghai. It has six transistors, relatively good volume, and good tone. It can be listened to by a relatively large number of people and is suitable for use by organizations on the hsien and hsiang level.

The remaining five types are simple, cheap, 3 - and 4-transistor broadcast band receivers suitable for use in rural areas where there is no electricity. They include both table model and portable models.

These transistor radios were experimentally produced during late 1962 and the first half of 1963, and some of them are already in mass production. Some others are going into mass production. Some have undergone trial marketing and have been welcomed by consumers.

The transistor radio industry has only recently been established in China, and there have been great advances in the quality of transistors manufactured for use in radios. Costs have been greatly reduced, and the production technology involved in producing other small parts for use with transistors has also been improved.

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The transistor radios presently on the market are the Tung-hu B 31, made by the Wuhan Radio Plant, and the Ling-yang 310-1. Soon to appear on the market are the Shen-yang I V 2-1, the Pai-ling 4-62-1, and the Ch'ang-ch'eng J 3-1.

EARTH SCIENCES

CHINESE RESEARCH ON ATMOSPHERIC CIRCULATION -- Peiping, Chi-hsiang Hsueh-pao (Acta Meteorologica Sinica), Vol 33, No 2, May 63, p 152

[The following is an English abstract appearing at the end of an article, entitled "On the Nonlinear Effect in the Formation of Blocking High," by Yeh Tu-cheng (5509/4648/2973) and Ch'en Hsiung-shan (7115/7160/1472), both members of the Institute of Geophysics and Meteorology, Chinese Academy of Sciences.]

In this paper, the process of how an unstable growing disturbance stops developing is investigated. The main mechanism to check the development is the feeding-back effect of the unstable disturbances on the basic current. It is shown that the time elapsed for an unstable disturbance to grow to its maximum intensity is roughly proportional to its initial amplitude. For an amplitude of 100 meters, the time is about 8 days, and that for an amplitude of 200 meters is about 5 days. Further, in the vorticity and thermo-dynamic equations, we keep the nonlinear terms which are generally dropped. This enables us to study the mutual interaction of the disturbances. It is shown theoretically that this mutual interaction is important in the formation of O-shaped blocking highs.

ATMOSPHERIC PRESSURE IN CHINA -- Peiping, Ch'i-hsiang Hsueh-pao, (Acta Meteorologica Sinica), Vol 33, No 2, May 63, p 188

[The following is an English abstract appearing at the end of an article, entitled "Pressure Systems in the Mountainous Region of Western Kansu," by Tang Mou-tsang (3282/2021/5547), Lanchow Institute of Geophysics, Chinese Academy of Sciences. Additional data contained in source are also given below.]

Based on more than 30 surface stations situated at a height near 3000 meters and more than 10 resonance stations, the pressure systems over the mountainous region of Western Kansu are analyzed. Five meso-pressure systems, two highs and three lows, are found on the mean chart. The annual variations of their intensity and positions are discussed. Two case-studies are made of these meso-systems. Finally, the relationship between the temperature field and these meso-systems is discussed.

In writing this paper, the author used all Chinese references, of which the most prominently mentioned were Yeh Tu-cheng (5509/4648/2973), Hsu Shu-ying (1776/3219/5391), Yang Chien-chu (2799/7003/0443), and others. Recognition was given especially to Kao Yu-hsi (7559/3945/4406) for his guidance and to Yin Shih-tsung (1438/0013/3865) for his help in drawing the barometric charts.

C-O-N-F-I-D-E-N-T-I-A-L

CHINESE RESEARCH IN SYNOPTIC METEOROLOGY -- Peiping, Science Abstracts of China: Earth Sciences, No 1, 1963, p 20

[The following is an English abstract of an article, entitled "Some Aspects of the Circulation During the Periods of the Persistent Drought and Flood in the Yangtze and Huai-ho Valleys in Summer," by T'ao Shih-yen (7118/6108/6056) and Hsu Hsu-ying (1776/3219/5391), which was originally published in Ch'i-hsiang Hsueh-pao (Acta Meteorologica Sinica), Volume 32, No 1, 1962, pages 1-10]

In this paper, an analysis is presented concerning the circulation characteristics during the periods of the persistent drought and flood in the Yangtze and Huai-ho valleys in summer. It is found that either during the period of the drought or that of flood, there is a definite pattern of anomalies in the general circulation both in the middle latitudes and in subtropical latitudes, and the anomalies are extremely persistent. It is this high persistence of anomalies which is responsible for the extreme summer time drought and flood in the Yangtze and Huai-ho valleys.

TRAINING OF METEOROLOGISTS -- Peiping, Kuang-ming Jih-pao, 6 Aug 63, p 2

During December 1963, the Peking Meteorological College graduated a group of meteorologists from the Sin Kiang Uighur Autonomous Region. These graduates will continue their work mainly in the field of weather observation, weather forecasting and the collection of meteorological data for aiding herding and agricultural production industries.

This class of minority nationalities was started in this school in 1961 especially for Uighur students in meteorology of average scholastic standard. All told, about 30 students of the Uighur, Kazakh, and the Tatar races made up this training class. Prior to entering this training class, these students studied the Chinese language at the Central Institute of Nationalities to increase their basic culture.

During these 2 years, the students were taught mathematics, physics, meteorology, theoretical and basic synoptic meteorology, climatology, meteorological observations, high-altitude anemometry, agricultural meteorology, etc. Before graduation, these students participated in practical training in all phases, from meteorological observations to weather forecasting. Under ordinary conditions, they all made good grades and, as a whole, are generally prepared to take up their work in meteorological observation and weather forecasting.

CHINESE EXPERIMENT IN GEOPHYSICAL SURVEYING -- Feiping, Science Abstracts of China: Earth Sciences, No 1, 1963, p 18

[The following is an English abstract of an article, entitled "The Experiment of High Position Gravity Survey to Prospect for Minerals in a Mountainous Area," by Chu Wu-chuan (2612/2429/3123), which was originally published in Ti-chiu Wu-li Hsueh-pao (Acta Geophysica Sinica), Volume 10, No 1, 1961, pages 83-97.]

The terrain for carrying out this experiment is characterized by a complicated topography, with a relative elevation of some 70-80 meters, an average slope of  $30^{\circ}$ , and a maximum value for terrain of more than two milligals.

The geological aim of the experiment is to investigate copper and polymetallic ore bodies of the pyritic type. According to theoretical computation, a medium-scaled and compacted ore body lying at a depth of 20-30 meters will cause a gravity anomaly of more than 2 milligals, and a 0.7 milligal anomaly may still be observed when the depth is down to 200 meters; while for a disseminated ore body of the same dimension, a 0.4 milligal anomaly may occur only when the depth is 20 meters from the surface.

The gravimeter used for measurements is of the world-wide type manufactured in Canada. This paper gives a detailed account of the field operations, the solution in terrain correction, and methods of working up the observed data and procedures of computation as applied in the course of the experimental measurements. The result of the experiment shows that, by adopting the above-mentioned system of work, the precision of computation for the residual Bouguer anomaly can be maintained up  $\pm 0.1$  milligal. Thus, it is proved, with the help of the high-precision gravity measurements, that medium-scaled (storage volume, 100,000 tons.) and compacted ore bodies lying in considerable depth or disseminated ore bodies near the surface can possibly be discovered in a mountainous terrain.

The chief disturbing factors of this area are recognized as andesitic tuffs and local thickenings of the loess cover with rather small density. The former produced positive anomalies of more than 0.7 milligal, whereas the latter often is the cause of negative anomalies of about one milligal.

C-O-N-F-I-D-E-N-T-I-A-L

CHINESE RESEARCH ON SEISMOLOGY -- Peiping, Science Abstracts of China:  
Earth Sciences, No 1, 1963, p 17

[The following is an English abstract of an article,  
entitled "Fault-Plane Determination by Means of Space Waves  
Recorded at Two Stations," by Kuo Tseng-chien (6753/1073/1696),  
which was originally published in Ti-chiu Wu-li Hsueh-pao  
(Acta Geophysica Sinica), Volume 10, No 1, 1961, pages 36-38.]

This is a continuation of a previous paper in Acta Geophysica Sinica,  
Volume 9, No 1, 1960, pages 20-24. A simple graphical solution of  
direction of movement of fault at focus by use of Wulff's projection is  
given. The basic premise of the graphical solution is that the direction  
of movement of fault, the displacement of S waves, and the direction of  
the ray of the waves on leaving the focus all lie in one plane. This  
ray can be determined by the polarization angle  $B$  of a wave. The inter-  
section of two planes, determined by the angles  $B$  obtained at two  
stations, respectively, gives the direction of movement of fault. If  
the angle  $B$  of S wave and the ratio of displacement amplitude of P wave  
to S wave and the ratio of displacement amplitude of P wave to S wave at  
single station are known, the direction of movement of fault also can be  
determined. The ratio of displacement amplitude of P wave to S wave is  
used for determination of the angle between the direction of movement of  
fault and the direction of ray of wave on leaving the focus.

CHINESE RESEARCH ON SHALE AND SANDSTONE SERIES -- Peiping, Ti-chih Hsueh-  
pao (Acta Geological Sinica), Vol 43, No 1, 1963, pp 88-89

[The following is an English summary of an article,  
entitled "On the Silurian and Devonian Beds of Western  
Chekiang and Southern Kiangsu," by P'an Chiang (3382/3068).]

In the districts of Western Chekiang and Southern Kiangsu, the  
Silurian and Devonian rocks amount to about 1,000 meters of shale,  
sandy shale, and sandstone series. As usual, sandy sediments become  
more and more frequent as we approach the top of the sequence. Here,  
no calcareous beds have been observed, a condition recalling the section  
of Southern Kiangsu on the east and that of Western Chekiang to be  
described later.

## C-O-N-F-I-D-E-N-T-I-A-L

### I. Huangshu Sandstone

The Huangshu sandstone was proposed by B. L. Tien in 1959; it is of the white sandstone and green shale series, ranging from 300 to 800 meters in thickness, with *Resserella* and *Coronocephalus rex* in the upper part and *Akidograptus*, *Climacograptus scalari* Hisinger, *Paraclimacograptus* cf. *innofotus* Nicholson, *Orthograptus*, etc. in the lower part. For the last 3 years, the study of the geological age of the Huangshu sandstone has brought forth a lot of different opinions: B. L. Tien and A. T. Mu hold that this formation is the lower part of "Maoshan sandstone" of "Upper Silurian" in age, while others consider it to belong to Kaochiapien series of Chu. From the graptolites and trilobite in the Huangshu sandstone and its stratigraphic section studied at Huangshu, its age can be definitely correlated to Kaochiapien series of Nanking Hills (Lower to Upper Silurian), thus settling the long-disputed problem.

### II. Tangchiawu Sandstone

The Tangchiawu sandstone is a red and grey sandstone formation; it has been described by B. L. Tien and A. T. Mu as Upper Silurian in age. But in 1960 at Kangchou, a few broken Middle to Upper Devonian *Antiarchi* fish plate (*bothriolepis*?sp.) were collected from the Upper or middle part of Tangchiawu sandstone by the writer.

### III. Chuchangwu Sandstone

It comprises a series of red sandstone and shale and has been described by S. S. Chiang as Middle or Lower Carboniferous in age. Though no fossil evidence has been found, its sedimentary boundary and facies can be correlated with the upper part of Upper Devonian formation of South China.

### IV. Maoshan Sandstone

The Maoshan sandstone is a red sandstone series of 30-100 meters thick. The description of the type locality is very clear. It lies between the Wutung sandstone and the Fentou series. No palaeontological evidence has yet been found. Its lithological characters and stratigraphical position can be correlated with Tangchiawu sandstone of Chekiang and the Tiaomachien series of Hunan both of the Middle Devonian in age.

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V. Fentou Series

This Silurian rock of Nanking Hills was divided into Kaochiapien series and Fentou series by the writer in 1956. The Fentou series of

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Upper Silurian in age is a sandstone and sandy shale formation which appears to be identical in almost every respect with the Shamao series of South China.

Hence in this paper, a revised Silurian and Devonian stratigraphical column of this region with a table of correlation of the strata with other parts of South China is proposed as below:

	S. Kiangsu	W. Chekiang	Hupeh	Hunan
Upper Devonian		Chuchangsu Sandstone		
Middle Devonian	Wutung Series	Sihu Sandstone		
	Maoshan Sandstone	Tangchiawu Sandstone		Tiaomachien Series
Lower Devonian	?			
Upper Silurian	Fentou Series	"Huangshu Sandstone"	Shamao Series	
Middle Silurian	Yellowish-green shale and sandy shale	(Kaochiapien Series)	Lojoping Series	
Lower Silurian	Kaochiapien Shale		Lungmachi Series	

CHEMISTRY AND CHEMICAL TECHNOLOGY

POLARGRAPHIC STUDIES MADE -- Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 1, Feb 63, pp 1-7

[The following is an English abstract appearing at the end of an article, "Polarographic Study of Acrolein Formaldehyde and Acetaldehyde," by Tung Shao-chun (5516/4801/0193) and Wang Erh-k'ang (3076/3643/1660) of the Institute of Applied Chemistry, Chinese Academy of Sciences. Additional data contained in this source are also given below.]

The polarographic behavior of Acrolein in Acetate-phosphate buffer solution has been investigated. Acrolein may give rise to up to four polarographic waves in accordance with the pH of solution. These waves might probably be due to the existence of two different forms of acrolein, seemingly its monomer and dimer, in solution.

By the addition of sodium bisulphite onto the aldehyde group and the conjugated double bond of acrolein, the reduction waves of acrolein disappeared, while those of formaldehyde still persisted in alkaline solution. In this way, the interference of acrolein in the determination of formaldehyde is eliminated. For the determination of acrolein and acetaldehyde, the buffer solution of pH 8.2 has been found to be suitable.

A rapid method for the determination of formaldehyde, acrolein, and acetaldehyde in admixtures has also been devised.

In writing this paper, which was submitted for publication on 26 February 1961, the authors used two English, one Russian, and one German reference and two references in a Czech multilanguage chemical journal, dated 1943-1960. The authors also expressed their appreciation to Ch'i Shu-chen (7871/0647/3791) for his assistance.

MACROMOLECULAR KINETICS OF ULTRASONIC DEGRADATION -- Peiping, Hua-hsueh Hsueh-pao (Acta Chimica Sinica), Vol 29, No 1, Feb 63, pp 19-27

[The following is an English abstract appearing at the end of an article, "Kinetics of Ultrasonic Degradation of Macromolecules in Solution by Molecular Weight Distribution Studies," by Chu Shan-nung (2612/0810/6593) and Ch'ien Jen-yuan (6929/0086/0337), Institute of Chemistry, Chinese Academy of Sciences. Additional data contained in the source are also given below.]

## C-O-N-F-I-D-E-N-T-I-A-L

Despite a considerable number of theoretical and experimental studies on the kinetics of ultrasonic degradation of macromolecules in solution, no convincing and decisive conclusions about the scheme of bond scission and degradation kinetics have been reached. In view of the recent advances in the determination of molecular weight distribution (MWD) by the method of sedimentation velocity in a  $\theta$ -solvent, the present authors attempted to attack this problem by MWD studies during the course of degradation process. A benzene solution of polymethylmethacrylate fraction of  $M_w = 9.4 \times 10^5$  was used. Six samples were irradiated in ultrasound of one megacycles/second for various durations. The MWD curves of these samples were determined in acetone-ethanol mixed solvent at  $\theta$ -temperature. Number or average molecular weights were calculated from the MWD data.

The change of MWD of the sample during the course of degradation is a direct consequence of the scheme of bond scission under the action of ultrasonic energy. It is shown that the results obtained are in conformity with the bond scission scheme of Iwaki and Okamoto with the schemes proposed by Jellinek, Mostafa, Bucche, Sata and Goberman. For the calculation of MWD of the degradation product of a single macromolecule, the number theory method of Nanda and Pathria was adopted for the Overall scheme of bond scission. The molecular weight distribution of the starting sample was taken into consideration by dividing the sample into ten hypothetical fractions of equal number of molecules, each fraction being assumed to undergo degradation independently. The MWD curves were calculated for each successive stage of degradation from the MWD of the previous stage. The counting of molecules was divided into degraded part and nondegraded part for the duration between successive stages of degradation according to the average number of bond scission per molecule during the period, which was so chosen as to be less than one. A weighting factor was introduced for the calculation of MWD of the degraded part in accordance with the Overall scheme of bond scission to take into account that molecules of longer chain are more rapidly degraded than those of shorter chain. The results also show that the dispersion of the  $e$ -value in the Overall scheme of bond scission can not be very wide for ultrasonic degradation in solution. The MWD curves of a hypothetical mono-disperse sample after various stages of degradation were calculated, the final MWD being confined in the interval of DP values between  $e$  and  $2e$ , as predicted by Watson.

The kinetic equation of Overall was found to conform to the experimental results only in the initial stages of degradation. The rate constant appears to decrease with increasing time of degradation. The nature and significance of this decrease of bond scission rate await further investigations.

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In writing this paper, which was submitted for publication 26 April 1962, the authors use 10 English, 3 German, and 2 Chinese references, dated 1944 - 1962. The two Chinese references are (1) Ch'ien Jen-yuan, one of the authors of this paper, and Ying Ch'i-ts'ung (2019/3823/3827), Scientia Sinica, Volume 11, page 66 (1962) and (2) Ch'ien Jen-yuan, Chu Shan-nung, also an author of this paper, and Ying Chsi-ts'ung, Hua-hsueh Hsueh-pao, Volume 27, page 152 (1961).

RESEARCH ON  $\Delta^5$ -6- MENTHYL-STEROIDS -- Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 99-108

[The following is an English abstract following an article, "The Synthesis of  $\Delta^5$ -6-Menthyl-steroids," by Huang Ming-lun (7806/7686/7893), Han Kuang-tien (7281/1684/3949), and Chou Wei-shan (0719/4850/0810), Institute of Organic Chemistry, Chinese Academy of Sciences. Additional data contained in the source are also given below.]

The synthesis of  $\Delta^5$ -6- menthyl compound S,  $\Delta^5$ -6- menthyl cortisol,  $\Delta^5$ -6-menthyl cortisone, and  $\Delta^5$ -6-menthyl 17 $\alpha$  acetoxy progesterone were described.

In writing this paper, which was submitted for publication 1 August 1962, the authors used 9 English, 4 Chinese, and one Italian reference, dated 1951-1963.

RESEARCH ON  $\Delta^5$ -6- MENTHYL SPIROLACTONE -- Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 86-89

[The following is an English abstract at the end of an article, "Synthesis of  $\Delta^5$ -6-Menthyl Spirolactone," by Chou Wei-shan (0719/4850/0810) of the Institute of Organic Chemistry, Chinese Academy of Sciences. Additional data contained in this source are also given below.]

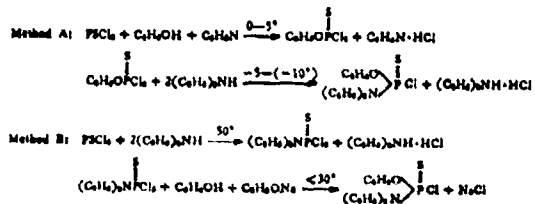
$\Delta^5$ -6- menthyl spirolactone was synthesized from epoxide through the following series of reaction, viz, Grignard synthesis with the introduction of 6-menthyl and side chain carboxyl groups, simultaneously followed by catalytic hydrogenation, chromic acid oxidation, dehydration, and dehydrogenation.

In writing this paper, which was submitted for publication 12 June 1962, the author used 11 English and 3 Chinese references, one US patent, and one Swiss publication, dated 1955-1962.

ORGANOPHOSPHORUS INSECTICIDE RESEARCH -- Peiping, Hua-hsueh Hsueh-pao,  
Vol 29, No 3, Jun 63, pp 153-158

[The following is an English abstract appearing at the end of an article, "Research On Organophosphorus Insecticides III. The Synthesis of O-ethyl N, N-diethyl Phosphoramidothionochloridate and Its Reaction With Sodium Hydrosulfide," by Yang Shih-hsien (2799/4258/0341), Ch'en T'ien-ch'ih (7115/1131/3069), Wang Ch'in-sun (3769/3830/1327), and Li Cheng-ming (2621/2973/0682), Department of Chemistry, Nankai University. Additional data contained in the source are given below.]

The preparation of O-ethyl N, N-diethyl phosphoramidothionochloridate by means of the following two methods was described:



Its reaction with sodium hydrosulfide in different solvents has also been studied. In anhydrous ethyl alcohol, the reaction proceeded smoothly and the product was identified as O,O-diethyl N,N-diethyl phosphoramidothionochloridate (yield >70%).

In writing this paper, which was submitted for publication 19 January 1962, the authors used 3 German, 3 Russian, one English, and one Chinese reference and one British patent, dated 1903-1959. The work for this paper was completed in April 1959. The authors consulted Kabachnik and others for one of the procedures used and found that their index of refraction was on a par with those of the ones referred to.

OXIDATION OF CUMENE -- Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 3,  
Jun 63, pp 154-165

[The following is an English abstract appearing at the end of an article, "The Autoxidation of Hydrocarbons IV. The Effect of Sodium Hydroxide in the Oxidation of Cumene," by Huang Pao-t'ung (7806/5508/0681) and Yang Jen-chung (2799/0088/1813) of the Institute of Applied Chemistry, Chinese Academy of Sciences. Additional data contained in the source are also given below.]

In a previous communication, it has been reported that the sodium salt of cumene hydroperoxide is an effective composite "initiator-alkaline additive" in the autoxidation of cumene. It was found that the oxygen absorption curve of the cumene autoxidation in the presence of sodium hydroxide showed an initial rapid absorption, followed by a slower rate which was still higher than that in the presence of cumene hydroperoxide (CHP) alone.

In the present work, the suggestion made in the last paper that the initiation of the cumene autoxidation was affected by the alkaline decomposition of CHP was substantiated by the following experimental results. CHP in *tert*-butylbenzene solution was rapidly decomposed by aqueous sodium hydroxide, 30% in five minutes when CHP/NaOH molar ratio was 40:1 and 80% in ten minutes when the ratio was 1:1 (Fig. 1). The early rapid oxygen absorption was closely related to the abrupt sodium hydroxide consumption (Fig. 2). The course of cumene oxidation was clearly divided into two separate stages, the first being distinguished by a rapid use-up of the alkali (Fig. 3). From the alkaline decomposition, products of CHP were isolated and characterized, besides 1-phenylisopropyl alcohol, acidic components, among which chiefly were benzoic acid, formic acid and carbonic acid. Apparently, these acid components were transformed into sodium salts and thus the formation of the chain-reaction inhibitor phenol by acid decomposition of CHP was greatly reduced. This made the smooth continuation of the course of oxidation in the second stage possible.

The effect of these sodium salts on the course of oxidation during the second stage was examined by adding these respective acid salts to cumene. In all cases, the induction period and the autocatalysis were either completely eliminated or shortened and no rapid oxygen-absorption was observed (Fig. 4).

In writing this paper, which was submitted for publication 27 March 1962, the authors used 5 English, one German, one Russian, and one Chinese reference, dated 1937-1960.

CHINESE RESEARCH ON RARE METALS -- Peiping, Scientia Sinica, Vol 12, No 8,  
Aug 63, p 1239

[The following is an English abstract of an article, entitled "The Extraction of Microgram Amounts of Zirconium With N-Benzoyl-N-Phenylhydroxylamine," by Ni Che-ming (0242/0772/2494), Chu Chung-fen (2612/0112/5358), and Liang Shu-chuan (2733/2885/2938), all members of the Institute of Chemistry, Chinese Academy of Sciences, Peiping.]

In this short communication, the conditions for the separation of microgram amounts of zirconium by extraction with N-benzoyl-N-phenylhydroxylamine (BPMA) in chloroform and for the determination of zirconium with ethanolic solution of Xylenol Orange in the organic phase will be reported.

Both acidity of aqueous media and amount of BPMA taken affect the percentage extraction of zirconium. With a given amount of zirconium and BPMA concentration under 6 mg/ml, the percentage extraction decreases for more than 97 percent at 0.3-1 N hydrochloric acid media; with increasing acidity, reaches a minimum in 4-5 N hydrochloric media; and then increases rather rapidly. More BPMA in chloroform gives better percentage extraction for the same acidity until BPMA reaches a concentration of 6 mg/ml, at which the extraction becomes practically complete from 0.3 to 10 N hydrochloric acid media.

The same holds for lower BPMA concentration provided ammonium thiocyanate or nitrate is also present in the aqueous phase. The addition of ammonium salts is favored because they reduce the amount of BPMA required, which, in turn, is advantageous for the subsequent photometric determination of zirconium. It has been also verified experimentally that 5 to 100 ug of zirconium can be quantitatively extracted (a) from 10 ml of 1 N hydrochloric medium into 5 ml of BPMA (1 mg/ml) solution (b) from 10 ml or 4 N hydrochloric acid medium containing 0.1g of ammonium thiocyanate into 5 ml of BPMA (2 mg/ml) solution, and (c) as (b) but containing 0.1 g of ammonium nitrate instead of thiocyanate. In 0.3 to 8 N perchloric acid media, the zirconium extraction curve is similar to that in hydrochloric acid solution.

For the same amount of zirconium, the optical density of its Xylenol Orange complex varies somewhat with the amount of BPMA in chloroform layer. The more BPMA in organic phase, the less the optical density, while the time needed to develop the color is also prolonged. Therefore, it is necessary to use the same amount of BPMA for extraction in the case of unknown and in making the calibration curve. And the amount of Xylenol Orange using photometric determination must be kept constant too.

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As the percentage extraction of titanium and niobium increases with increasing acidity, it is preferable to use low acidity to extract zirconium in the presence of these elements. There are also elements which are extracted from low acidity media. If extraction takes place from one N hydrochloric acid solution, the amount of tin allowed to be present is 30 ug, while from 6 N hydrochloric media, 300 ug will be allowed. The extraction of zirconium with BPFA is possible over a wide range of acidity (0.3-10 N hydrochloric acid); hence the optimum acidity can be chosen according to the nature of foreign ions present. In extraction of microgram amounts of zirconium from one N hydrochloric solution, the presence of twice as much titanium as niobium or zirconium is allowed. Larger amounts of aluminum, cobalt, copper (masked with thiourea), iron (reduced with ascorbic acid), thorium, uranium, sulfate, and tartrate do not interfere. However, milligram amounts of fluoride and oxalate interfere seriously.

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CONFERENCE ON SYNTHETIC CRYSTAL GROWING -- Peiping, Wu-li T'ung-pao, No 1, Feb 63, p 56

China's first conference on sythetic crystal growing was held in Peiping December 1962. Several tens of representatives from various fields participated in this conference. On the first day of the conference, Change Shou-ch'ing (1728/4849/1987) presented a report on "Crystal Growing in Czechoslovakia, Hungary, Poland, and Other Countries," and Ko T'ing-sui (5514/1656/3606) presented a comprehensive report on "The growth and Strength of Crystal Whiskers." Following this, the conference divided into groups to read and carry on detailed discussions of several tens of research papers and work reports.

The content of most of the reports dealt with methods of growing crystals. These included the flame method, the water heat synthesis method, the fusion method, the water solution method, the gas sublimation condensing method, the fused salt method, and the epiphytic method. These methods were used successfully to grow various types of artificial crystals (such as ruby, quartz, calcium fluoride, dihydroammonium phosbhat, carborundum, mica, and crystals of eclogite and iron yttrium. There was a particularly large amount of discussion on the growing of ruby crystals and quartz crystals. A key problem in the growing of crystals by fusion is finding a method for preparing high quality calcium fluoride. There has also been some initial progress in finding ways of growing piezo-electric crystals relatively repidly and to a relatively large size, and some experience has been gained in removing defects which appear during the growing.

INSTITUTE OF CHEMICAL PHYSICS BUILDS OWN EQUIPMENT -- Canton, Nan-fang Jih-pao, 2 Jul 63, p 4

Through its own resourcefulness, the Institute of Chemical Physics, Chinese Academy of Sciences, lacking proper equipment, has taken advantage of the special characteristics of Chinese resources and has carried out research in some of the world's newest scientific and technical fields.

On the basis of some simple principles described in a foreign publication, researcher Chu Pao-lin (2612/5508/3829) and young assistant researcher Ting Ching-ch'un (0002/2529/5028) worked for 9 months to design and construct a capillary chromatography instrument. All of the component parts of this instrument were made in China. The capillary tubes themselves were drwan by research personnel in cooperation with instrument plant technicians. Their internal diameter is less than 0.1 millimeter.

The production of highly purified gases and the determination of the amount of contaminants they contain is an important problem in the electronic tube, transistor, and other modern industries. A research team led by young chemist T'ang Hsueh-yuan (0781/1331/3220) recently produced a catalyst which can reduce the contaminants in hydrogen gas to a very low point. Hydrogen

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gas purified in this manner, when used in the production of transistors by concerned units, made it possible to obtain a highly purified product. Although the experimental chemical found by this team is already known in foreign countries, the technical data concerning it are completely secret. T'and Hsueh-yuan has already applied his molecular sieve to the purification of argon gas and has achieved very good results, with purity that exceeds national specifications.

The Institute of Chemical Physics has also invented a plasticizer, made from paraffin, which will create conditions for future large-scale production of cheap polyvinyl chloride plastics. The Dairen Plastic Plant has recently compared this plasticizer with an imported benzene plasticizer and has found that whereas plastics made with the benzene plasticizer can be broken at temperatures of 40° C, those made with the paraffin plasticizer are unharmed after being bent several times at that temperature.

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TECHNICAL TRAINING AND PUBLICATIONS

KWANGSI UNIVERSITY GRADUATES -- Canton, Chung-kuo Hsin-wen, 14 Aug 63, p 10

This year there are more than 600 graduates of Kwangsi University. They belong to such nationalities as Han, Chuang, Yao, Hui, Mo-lao, and Mao-nan. The 441 graduates of the Departments of Mining and Metallurgy, Electric Power, Machinery, Chemical Engineering, and Architecture are the first to be graduated from these departments. These 221 graduates of the departments of Mathematics, Physics, Chemistry, and Foreign Languages constitute the second group to be graduated from these departments.

FIRST OVERSEAS CHINESE GRADUATES OF THE CHINESE UNIVERSITY OF SCIENCE AND TECHNOLOGY -- Canton, Chung-kuo Hsin-wen, 19 Aug 63, pp 9-10

Some members of the first group of overseas Chinese graduates of the Chinese University of Science and Technology are going to take jobs in China. These graduates, who have studied in the departments of modern physics, modern chemistry, radio electronics, biophysics, and geochemistry, have undergone 5 years of stringent training. Most of them are credited with good study achievements. Indonesian overseas Chinese Liang Kuei-ming (2733/4097/6900), who studied radiation chemistry in the Department of Modern Chemistry, was a first-rank student in his class. For the past 5 years, he has studied under the guidance of Yang Ch'eng-tsung (2799/2110/1350), department chairman and specialist in atomic energy chemistry; Liang Shu-ch'uan (2733/2855/2938), department vice-chairman and specialist in analytical chemistry; and Mei Chen-yueh (2734/6966/1471), specialist in nuclear physics. He completed more than 20 courses and carried on his graduate practice at the Institute of Applied Chemistry, Chinese Academy of Sciences.

Singapore overseas Chinese Huang Hsuan (7806/5503), of the Rare Element Special Group in the Department of Geochemistry, had a good foundation in chemistry and was willing to undertake exhaustive research. In his production practice during his fifth year, he went on an expedition to all parts of China with members of the Institute of Geology, Chinese Academy of Sciences, to collect data for a paper on "Organic Geochemistry of Sedimentary Rock."

RECENT SCIENTIFIC AND TECHNOLOGICAL PUBLICATIONS -- Peiping, Jen-min Jip-pao, 11 Aug 63, p 6

According to a recent announcement appearing in the Jen-min Jih-pao, (People's Daily), the following scientific and technological publications are now available for purchase from the New China Book Store and the Science Press in Peiping:

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"Semiconductors in Science and Technology," Volume 1, by A. S. Yo-fei (Soviet) and translated by Chou Lien et al.

"Publication by Chinese Academy of Science Conference on High Polymer Technology," from manuscripts delivered at the Conference of High Polymer Physicochemistry and Physics Research Work, Changchun, August 1961.

"Collection of Reports on Powder Metallurgy," by I. N. Fu-lan-chai-wei-chi (Soviet) and translated by Hsia Wen-ying et al.

"Collection of Dissertations on Dynamic Meteorology," by Yeh Tu-cheng (5509/4648/2973) et al.

"Development of Several Questions Concerning Meteorology," by the Reports Committee on Meteorology.

"Recent Theories on Solid State," by F. Sai-tzu (Soviet ?) and translated by Mei Liang.

"Light Radiation of Liquid and Solid States," by V. L. Liao-fu-shen (Soviet) and translated by Hsu Shao-hung et al.

"X-Ray in Crystallography," by A. Chi-ni-yeh (Soviet) and translated by Shih Shih-yuan.

"Theory on Corrosion of Metals," by N. D. To-ma-hsiao-fu (Soviet) and translated by Hsu Po-nien, et al.

"Basic Principles of Electronic Computers" (Volume 2 of two parts) by Yao Lin (1202/2651), et al.

"The Climate and the Seasons," by Li Hsien-chih (2621/2009/0037).

"Physical Meteorology," by J. C. Chiang-sheng (Johnson ?) and translated by Wang Peng-fei.

"Geochemistry," by Department of Geology, Nanking University.

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BIOGRAPHIC INFORMATION

The following biographic information on selected Chinese Communist scientific and technical personnel was taken from the sources cited in parentheses.

CHANG Ch'ung-li (1728/1504/3810)

YU Yuan-ying (3266/3293/3841)

CH'ENG Li-jen (4453/7787/0088)

All of the Institute of Zoology, Chinese Academy of Sciences; coauthors of an article titled "Comparative Research on the Appearance of Thyroid Function in Domestic Fowl." (Peiping, K'o-hsueh T'ung-pao, No 5, May 63, pp 62-63)

CHANG HSIAO-NIEN 91728/2400/1628), Institute of Soils, Chinese Academy of Science; author of an article, "Clay Minerals of Tropical Soils of Hainan Island." (Peiping, T'u-jang Hsueh-pao, Acta Pedologica Sinical, Vol 11, No 1, 1963, pp 36053)

CHANG Hsing (1728/2502)

HSU Chou-o (1776/0719/1230)

Both of the Institute of Zoology, Chinese Academy of Sciences; coauthors of an article titled "The Influence of pH on the Function of Gonadotrophic Hormones in the Human Placental Chorion." (Peiping, K'o-hsueh T'ung-pao, No 5, May 63, pp 66-67)

CHANG Hua (1728/5478), Department of Physics, Peking University; author of an article, "On the Study of Peptide Bonds." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 3, Jun 63, pp 149-152)

CHANG Kung (1728/1462)

LEI Yi-ming (7191/0001/7686)

CHUNG K'ung-fang (6988/1313/5364)

SUN Ch'eng-o (1327/2110/6166)

All of the Chemistry Department, Peking University; authors of an article, "Studies on the Nenshutkin Reaction II. The Kinetics of the Reaction of Quinoline-merthy Iodine in Some Aliphatic Alcohols." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 90-94)

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CHANG Kuo (1728/2654), Institute of Experimental Biology, Chinese Academy of Science; author of an article entitled "Research Achievements of Professor Chu Hsi (2612/3156) on Silk Worm Larvae." (Peiping, Sheng-wu-hsueh T'ung-pao, No 2, Mar 63, pp 1-2)

CHANG Tsung-hsien, Radiobiology Laboratory, Central Institute of Hematology and Blood Transfusions, Moscow; author of "On the Humoral Component Under the Effect of Bone Marrow Transplantation of Dogs Afflicted With Acute Radiation Disease," in Russian; received for publication 4 December 1962. (Moscow, Meditsinskaya Radiologiya, Vol 8, No 8, Aug 63, pp 48-53)

CHANG Tsung-ping (1728/1350/3521), Department of Biology, Peking University; author of a general survey article, "Present Development of Insecticides and Their Future Outlook." (Peiping, Sheng-wu-hsueh T'ung-pao, No 2, Mar 63, pp 6-9)

CHAO Ch'eng-chai (6392/6134/7872), Institute of Soils, Chinese Academy of Sciences; author of an article, "The Nature of Soil Mechanics of Paddy Soils and Its Relations to Tillage." (Peiping, T'u-jang Hsueh-pao, Acta Pedologica Sinica, Vol 11, No 1, 1963, pp 53-63)

CHAO Kan-ch'uan (6392/3927/3123); author of an article, "Nucleic Acid and its Role in Biology." (Peiping, Shen-wu Hsueh T'ung-pao, No 1, Jan 63, pp 39-45)

CHAO K'eng-t'ang (6392/5146/1016), Department of Biology, University of Inner Mongolia; author of an article, "The Biology of the Yellow Goat and Methods for Hunting It." (Peiping, Sheng-wu-hsueh T'ung-pao, No 1, Jan 63, pp 19-20)

CHEN Chung (3088/6945), Department of Pharmacy, Peking Medical College; author of an article, "Studies on the Heat Stability of Silica Gels." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 67-77)

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- CH'EN SHAO-FANG (7115/4801/5364), Institute of Soils and Fertilizer, Agricultural College of Fukien; author of an article, "A New Species of Azotobacter Isolated From the Soil of Foochow District." (Peiping, T'u-jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 63-70)
- CH'EN Shu-tse, Leningrad State University; coauthor with M. P. Susarev of article, "Calculation of Liquid-Vapor Equilibrium for Ternary Systems From Data on Binary Systems. The System Benzene-n-Hexane Cyclohexane," in Russian; received for publication 28 November 1960. (Moscow, Akademiya Nauk SSSR, Zhurnal Fizicheskoy Khimii, Vol 37, No 8, Aug 63, pp 1739-1744)
- CHENG Jo-ai (6774/5387/7224), Institute of Geography, Chinese Academy of Sciences; author of an article, "Studies on the Characteristics of Sweat in the Sand Dunes of Desert Areas, Central Kansu." (Peiping, T'u-jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 84-92)
- CH'ENG Ling-yen, Joint Institute of Nuclear Research; coauthor with V. A. Belyakov, V. I. Veksler, N. M. Vityasov, I. Vrana, Kim Hui In, Ye. N. Kladnitskaya, A. A. Kuznetsov, A. Mikhail, Nguyen Din Thi, M. I. Solov'yev, and T. Khofmohl' of article, "Production of  $\Lambda$ -Hyperons by 7 BeV Negative  $\pi$ -Mesons on Hydrogen," in Russian; received for publication 13 March 1963. (Moscow, Akademiya Nauk SSSR, Zhurnal Eksperimental'noy Teoreticheskoy Fiziki, Vol 45, No 2, Aug 63, pp 88-89)
- CH'ENG PO-JUNG (4453/0130/1369)
- WANG JU-YUNG (3769/3067/2606 + 1661)
- MA CH'ING-LU (7656/1987/7498)
- LO HSUAN (5012/2467)  
All of the Institute of Forestry and Soils, Chinese Academy of Sciences; co-authors of an article, "Salt Accumulation in the Soils of Sung-nen Plain, Northeastern China." (Peiping, T'u-jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 19-25)

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- CHENG Wan-chun (6774/5502/6874), Chinese Academy of Forestry
- TU AN Mu-hsin (4551/2606/3512), Chinese Academy of Forestry
- CHAO C'hi-seng (6392/1142/0300), Nanking Forestry College  
Coauthors of an article, "Notes on Castanopsis (D. Don)  
Spach." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8,  
No 2, Apr 63, pp 186-190)
- CHIANG Kuo-hsiang (5592/0948/4382); author of an article, "A  
Symposium on the Studies of Microelements of Soils and Plants,  
Chinese Academy of Science, 1962, 12, 10-16." (Peiping, T'u-  
jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963,  
pp 109-111)
- CHIANG Ming-chien (5592/2494/6197)
- LI Chun (2621/6874)  
Both of the Department of Pharmacy, Peking Medical College;  
authors of an article, "Chemistry of the Quinazoline Series  
III. Molecular Rearrangement of 4-Hydroxyquinazoline Di-N-  
oxide." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 1, Feb 63,  
pp 44-53)
- CHIANG Wen-jung (1203/2429/2837), Northwestern Agricultural College;  
author of article, "The First Steps in Research on Numerous  
Questions of Populus Canadensis' Seedlings." (Peiping, Lin-yeh  
K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 175-179)
- CH'IAO Tseng-chien (0829/2582/7002), Department of Biology,  
Peiping Normal University; author of an article, "Achievements  
in Modern Biology and Developments in Plant Classifications."  
(Peiping, Shen-wu-hsueh T'ung-pao, No 1, Jan 63, pp 9-14)
- CHOU Kung-tu (0719/0361/1653)
- HU Hsing-chou (5170/5281/3166)
- YU Ta-chun (0151/1129/0689)  
All of the Chemistry Department, Peking University; co-authors of  
an article titled "The Crystal Structure of Sodium Hydroselenite."  
(Peiping, K'o-hsueh T'ung-pao, No 5, May 63, pp 42-44)

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CHU CH'I (2612/3217)

CH'EN EN-FENG (7115/1869/7685)

All of the Institute of Forestry and Soils, Chinese Academy of Sciences; co-authors of an article, "Properties of Blast Furnace Slag and Their Action on the Function of Agricultural Crops in Different Soils." (Peiping, T'u-jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 70-84)

CHU Hsien-mo (2612/7359/6206), Northwest Institute of Biology and Soils, Chinese Academy of Sciences; author of an article, "The Process of the Original Soil Formation and Lithophytes in the T'ai-pai Mountains of Shensi Province." (Peiping, T'u-jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 1-10)

CHU Pang-chun (2612/6721/0193); translator of an article, titled "Basic Logic Circuits and Their Application," from the Soviet Journal Radio. (Peiping, Wu-hsien-tien, No 3, Mar 63, pp 2-4)

FANG Hung-chu (2455/3163/6880)

Chou T'ung-hui (0719/0681/1920)

Both of Institute of Materia Medica, Chinese Academy of Medical Sciences; authors of an article, "Determination of 52-Dihydrocortisone Acetate." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 1, Feb 63, pp 64-66)

FANG Tsung-hsi (2455/1350/3556), Shantung College of Oceanography; author of an article, "Human Heredity." (Peiping, Sheng-wu-hsueh T'ung-pao, No 1, Jan 63, pp 25-28)

FENG Chi-li (7458/1569/4539), Institute of Biology and Physiology, Chinese Academy of Sciences; author of an article, "The Development of Chemical Weu Killers in the Past Few Years" [in terms of world-wide development]. (Peiping Sheng-wu-hsueh T'ung-pao, No 1, Jan 63, pp 1-8)

HAN Kuang-tien (7281/1684/3949)

HUANG Ming-lun (7806/7686/7893)

Both of the Institute of Organic Chemistry, Chinese Academy of Sciences; authors of an article, "The Configuration of 6-methyl-6-hydroxy-steroid." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 109-113)

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HO Chung-lin (0149/6945/2651)

LIU Chi-t'ao (0491/4359/3447)

Both of the Department of Chemistry, Liao-ning University; authors of an article, "A Modification of Yatsimirskii's Method of Evaluating the Success of Stability Constants of Complex Compounds." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 1, Feb 63, pp 58-60)

HO Kuo-ch'i, Department of Historical and Regional Geology, Moscow State University; author of article, "Some Notes on Graptolitic Zones of Ordovician Deposits Along the Ishim River (Between the Villages of Stavropol'skoye and Chernozubovka)," in Russian; received for publication 7 July 1962. (Moscow, Vestnik Moskovskogo Universiteta, Seriya 4, Geologiya, No 4, Jul/Aug 63, pp 45-50)

HSI Ch'eng-fan (1598/2110/5672)

T'ANG T'ung-yeh (0781/2717/5509)

HU T'ien-hsiang (5170/1131/4382)

FAN Pen-lan (5400/2609/5695)

HSU Sheng-hsi (1776/5110/6932)

All of the Institute of Soils, Chinese Academy of Sciences; coauthors of an article, "Detailed Soil Study in a Production Brigade of A People's Commune in the Semiarid Plain (I) Methods for the Preparation of Various Detailed Maps." (Peiping, T'u-jiang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 10-19)

HSIA Chih-yuan (1115/1807/6678), Institute of Lumber Industry, Chinese Academy of Forestry; author of an article, "Research on Phenol Alcohol (Low Condensed Phenol Aldehyde Resin) Method of Producing Laminated Wood Plastic." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 161-167)

HSIAO Ying (5618/5391), Chairman of the Peiping Municipal Science and Technology Committee; presented a report on work in agricultural science and technology in Peiping to a conference on agricultural science and technology on 27 July. (Peiping, Kuang-ming Jih-pao, 29 Jul 63, p 1)

C-O-N-F-I-D-E-N-T-I-A-L

HSU Kuang-chih (1776/1684/2535)

CH'EN Su-ming (7115/4790/2494)

T'ANG Yu-ch'i (0781/2589/4388)

Coauthors of an article titled "The Electromagnetic Resonance Spectrum of Free Radicals of Aromatic Amine Fixed on the Surface of Catalytic  $\text{SiO}_2\text{-Al}_2\text{O}_3$ ". (Peiping, K'o-hsueh T'ung-pao, No 6, Jun 63, pp 49-51)

HSU Yuan-sen (1776/0337/2773)

TSOU Yuan-hsi (6760/0337/8764)

Both of the Institute of Metallurgy, Chinese Academy of Sciences; authors of an article, "Activities in  $\text{PbCl}_2\text{-SnCl}_2$  and  $\text{PbCl}_2\text{-CdCl}_2$  Melts." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 3, Jun 63, pp 181-189)

HU Jung (5170/2837), Institute of Lumber Industry, Chinese Academy of Forestry; author of article, "Research on the Friction Resistant Characteristics of Lumber." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 167-177)

HUANG Ch'uan-chia (7806/0278/3946), Chih-chiang Teachers School, Hunan; Author of an article titled "Research On the Willow silkworm." (Peiping, K'p-hsueh T'ung-pao, No 6, Jun 63, pp 65-66)

KAO T'u-chen (7559/0960/3791), Hopeh Province, T'ung-shang Special Office, Bureau of Agriculture and Forestry, Sea Coast and Forest Region; coauthor with Niu Hung-hsin and Ch'ang Tzu-chiang of article, "Research on Sciapteron tabiniforme Rott. in the Hopeh District." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 127-139)

KU Hsin (6328/6580); author of an article titled "Talk About Heavy Water." (Peiping, Kung-jen Jih-pao, 10 Sep 63, p 3)

KUAN I-wen (1351/1355/2429)

HSU Kuang-hsien (1776/0342/2009)

Both of Peking University; coauthors of an article, "Theory of Equilibria of Complexes in Solution II. The Complexity of Uranyl Thiocyanate by an Improved method of corresponding solutions." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 1, Feb 63, pp 37-43)

C-O-N-F-I-D-E-N-T-I-A-L

KUNG Tzu-t'ung (7895/1311/0681)

CH'EN Chih-ch'eng (7115/1807/6134)

Both of the Institute of Soils, Chinese Academy of Sciences; coauthors of an article, "On the Characteristics and Formation of Calcified Paddy Soil in South China." (Peiping, T'u-Jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 92-99)

KUO Ch'i-chen (6753/1142/3791)

CH'EN Hsing-o (7115/7451/1230)

Both of Department of Chemistry, Amoy University; coauthors of an article, "Preparation of 2,5-Dimercapto-1,3,4-Thiadiazole and Its Derivatives." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 1, Feb 63, pp 62-63)

LI CH'ANG HUA (26a1/2490/5478), Institute of Forestry and Soils, Chinese Academy of Sciences; author of an article, "The Relationship of the Condition of the Soil and the Growth of Forests and the Distribution of Forests of the Lu-shui-ho Operations Region in the Ch'ang-pai Shan." (Peiping, Lin-yeh K'o -hsueh) [Scientia Silvae], Vol 8, No 2, Apr 63, pp 93-105)

LI Ch'ung-hsi (2621/1504/3556)

LU Te-p'ei (0120/1795/1014)

CHANG Ming-che (1728/2494/0772)

WU Shao-lan (0124/1421/5695)

HSING C'hi-i (6717/0366/3015)

All of the Division of Organic Chemistry, Chemistry Department, Peking University; authors of an article, "Cysteine Peptides I. Synthesis of a Protected Hexapeptide With the Amino Acid Sequence 6-11 of the A-chain of Insulin." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 133-142)

LIANG Chia-chi (2733/1367/7535), Department of Biology, Peking University; author of an article, "Heterogony From the Point of View of Mathematics." (Peiping, Sheng-wu-hsueh T'ung-pao, No 2, Mar 63, pp 34-37)

C-O-N-F-I-D-E-N-T-I-A-L

LIANG Hsiao-t'ien (2733/2556/1131), Institute of Materia Medica, Chinese Academy of Medical Sciences; author of an article, "The Hydrolysis of o-Nitroanilines." (Peiping, Hua-hsueh-pao, Vol 29, No 2, Apr 63, pp 147-148)

LIN Kuang-hua (2651/0342/5478) LEI Yung (7191/3279) Both of the Department of Biology, Kiangsi University; authors of an article, "The Effects of the Coordinated Use of Trace Elements on Young Ankara Hares." (Peiping, Sheng-wu-hsueh T'ung-pao, No 1, Jan 63, pp 21-24)

LIU Ch'un-yang (0491/2504/7122)

YIN Yuan-ch'i (3009/0337/7496)

HSIAO Kuang-yen (5618/0342/8827)  
Coauthors of an article titled "Research On Silicon and Magnesium Cracking Catalysts (II), The Relationship Between Surface Characteristics and Cracking Capabilities." (Peiping, K'o-hsueh T'ung-pao, No 5, May 63, pp 45-47)

LIU Hsiao-i, Moscow State University; author of article, "Regime of Sub-surface Waters in the Littoral Territory of Rybinskiy Reservoir," in Russian. (Moscow, Vestnik Moskovskogo Universiteta, Seriya 6, Biologiya, Pochvovedeniye, No 6, Jun 62, pp 48-54)

LIU KUANG-SUNG (0491/0342/1516)

CHOU WEI-CHIN (0719/0251/6855)

WU TA-KAO (0702/6671/7559)

LI CH'ING K'UEI (2621/1987/6652)

All of the Institute of Soils, Chinese Academy of Sciences; coauthors of an article, "Response of Crops to Superphosphate As Affected by the Rate of Supply of Soil Nitrogen and by the Application of Ammonium Sulphate." (Peiping, T'u-jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 25-36)

LIU Shou-jung, Institute of Electrochemistry, Academy of Sciences USSR; coauthor with S. I. Zhdanov of article, "Reduction of Anions on the Dropping Mercury Cathode in the Presence of Small Amounts of Lanthanum Ions," in Russian; received for publication 2 January 1961. (Moscow, Akademiya Nauk, SSSR, Zhurnal Fizicheskoy Khimii, Vol 37, No 8, Aug 63, pp 1750-1756)

C-O-N-F-I-D-E-N-T-I-A-L

LO Chi-pang (7482/2601/6721), Ninth Investigatory Team, Office of Designs and Investigation, Ministry of Forestry; author of an article, "The Initial Research in the Compilation of a Standard Table of the Latifolious Mixed Forests in the Forest Region of Ta-pa-Shan in Szechwan Province." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 105-114)

MA Hsueh-hua (7456/7185/5478), Institute of Forestry, Chinese Academy of Forestry Sciences; author of article, "Logging Operations and Land and Water Conservation of the Coniferous Tree Area in the High Mountains of Western Szechwan." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 149-161)

NI Chao-ai, Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, Academy of Sciences USSR; coauthor with V. I. Kuznetsov of article, "On the Composition of Extractable Inner Complex Compounds," in Russian; received for publication 15 December 1962. (Moscow, Akademiya Nauk SSSR, Zhurnal Analiticheskoy Khimii, Vol 18, No 8, Aug 63, pp 915-919)

NIU Hung-hsin (3662/7703/9515)

CH'ANG Tzu-chiang (1603/1311/3068)

Both of the Institute of Forestry, Hopeh Provincial Academy of Agricultural Sciences; coauthors with Kao T'u-chen of article, "Research on Sclapteron tabiniforme Rott. in the Hopeh District." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 127-139)

PAI Tung-lu (4101/2639/7627)

CHI Ju-yuan (1518/3067/6678)

Both of the Institute of Materia Medica, Chinese Academy of Sciences; authors of an article, "Synthetic Studies on Hypotensive Agents I. The Preparation of 10-aminoacyl and 10-aminoalkylphenothiazine." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 1, Feb 63, pp 28-36)

C-O-N-F-I-D-E-N-T-I-A-L

PAO Fu-ch'eng (7637/3940/2052), Institute of Lumber Industry, Chinese Academy of Forestry Sciences; author of article, "Research on the Microdynamics of Pine Trees in Yunnan." (Peiping, Len-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 139-149)

PAO Kuo-hsing (1405/0948/5281), Physics Department, Shen-yang Teacher's College; author of a short article titled "A Demonstration of Absolute Humidity," (Peiping, Wu-li T'ung-pao, No 1, Feb 63, pp 52053)

P'ENG Chih-chung (1756/1807/1813)

PA Che-sheng (7456/0811/3932)

Both of the X-Ray Laboratory, Crystalline Minerals Teaching and Research Section, Peking Geology College; coauthors of an article titled "The Crystal Structure of Astrophyllite." (Peiping, K'o-hsueh T'ung-pao, No 5, May 63, pp 67-69)

SHIH Tseng-ch'ien (0670/1073/6197), Peking Geology College; author of a short article titled "Demonstration Experiments for Capacitors." (Peiping, Wu-Li T'ung-pao, No 1, Feb 63, pp 53-54)

SHIH Ying-hsien (0670/3467/0103), Institute of Zoology, Chinese Academy of Sciences; author of an article titled "The Effect of Hormones on Regeneration of the Tail of *Rana nigromaculata* Tadpoles." (Peiping, K'o-hsueh T'ung-pao, No 5, May 63, pp 64-65)

T'ANG T'ien-fu, Geological Section of the Moscow Society of Naturalists; author of report, presented on 15 February 1963 at the meeting of Society held on 12 February 1963-1929 March 1963 and titled "Terrigenous-Mineralogical Provinces of Upper Carboniferous and Lower Permian Deposits in the Aktyubinsk Ural Region," in Russian. (Moscow, Byulleten' Moskovskogo Obshchestva Ispytatley Prirody, Otdel Geologicheskii, Vol 38, No 4, Jul Aug 63, 123)

T'AO Li-t'eng

Author of article, "On the Problem of Calculating the Measuring Circuits of Automatic Potentiometers, Operation With Thermocouple," in Russian. (Moscow, Priborostroyeniye, No 8, Aug 63, pp 6-8)

C-O-N-F-I-D-E-N-T-I-A-L

T'ENG Chih-chung (1756/1807/1813)

SHEN Chin-ch'uan (3088/0093/1557)  
Both of the X-Ray Laboratory, Crystalline Minerals Teaching  
and Research Section, Peking Geology College; coauthors of an  
article titled "The Crystal Structure of Bafertisite." (Peiping,  
K'o-hsueh T'ung-pao, No 6, Jun 63, pp 66-68)

T' IEN Po (3944/3134), Institute of Microbiology, Chinese Academy  
of Sciences; author of an article, "Degeneration of Potatoes  
and Its Prevention." (Peiping, Sheng-wu-hsueh T'ung-pao, No  
1, Jan 63, pp 17-18)

TS'AO Yung-ch'ing (2580/6102/3237)

CHANG Chih-i (1728/5268/0001)  
Both of the Institute of Zoology, Chinese Academy of Sciences;  
coauthors of an article titled "The Relationship Between Hor-  
mones and Alkaline Phosphorylase and Their Effect Upon Ovulation  
of Fish." (Peiping, K'o-hsueh T'ung-pao, No 6, June 63, pp  
59-63)

TSOU Yuan-hsi (6760/0337/8764); author of an article titled "The  
Relationship Between Vacancy size and the Solubility of Krypton  
in Molten Lead and Tin." (Peiping, K'o-hsueh T'ung-pao, No  
5, May 63, pp 60-61)

TSUNG Ju-shih (1350/3067/1395)

CHI Ju-yuan (4472/3067/6678)  
Both of the Institute of Materia Medica, Chinese Academy of  
Sciences, Shanghai; authors of an article, "The Synthesis of  
Some Ring-Cleft Analogues of Chlorpromazine." (Peiping, Hua-  
hsueh Hsueh-pao, Vol 29, No 1, Feb 63, pp 8-18)

TUNG Ch'eng-t'ung (5516/2110/4827); author of an article titled "A  
Discussion of the Ching-lo Theory [in Acupuncture]." (Peiping,  
K'o-hsueh T'ung-pao, No 5, May 63, pp 21-27)

C-O-N-F-I-D-E-N-T-I-A-L

WANG Ch'eng-ho, Moscow Machine Tool Building Institute; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Comparative Analysis of Programming Systems for Metal Cutting Tools," in Russian. (Moscow, Vestnik Mashinostroyeniya, Vol 43, No 8, Aug 63, p 92)

WANG Fu (3769/6534), Southwestern Agricultural College; author of article, "The Group Life of Male and Female White Wax Insects and Its Application to Production." (Peiping, Len-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 161-175)

WANG Hsiang-ming (3076/0686/2494), Department of Biology, Wuhan University; author of an article, "Inheritance in the Genetic Theory and Critical Problems." (Peiping, Sheng-wu-hsueh T'ung-pao, No 2, Mar 63, pp 19-23)

WANG K'uei (3769/5688), Laboratories of Analytical Chemistry, Peking Medical College; author of an article, "The Masking of Hydrolytic Precipitation Reactions of Metallic Ions." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 78-85)

WANG K'uei-jen (3769/1145/0088)

P'ENG Chih-chung (1756/1807/1813)

Both of the X-Ray Laboratory, Crystalline Minerals Teaching and Research Section, Peking Geology College; coauthors of an article titled "The Crystal Structure of Tsa-fei-shih [a mineral discovered by B.W. Anderson in 1951]". (Peiping, K'o-hsueh T'ung-pao, No 5, May 63, pp 70-71)

WANG K'un-jen (3076/1024/0088), Department of Biology, Peking Normal University; author of an article, "The Physiological Functions of the Liver." (Peiping, Sheng-wu-hsueh T'ung-pao, No 1, Jan 63, pp 34-38)

WANG Wen-hsiang (3769/2429/3276), Anhwei Research Institute of Forestry; author of an article, "Observations on the Biological Properties of the Arundo Reed and the First Report on the Experiments of Growing It." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 179-184)

C-O-N-F-I-D-E-N-T-I-A-L

WANG Yu (3076/3731)

HSU Chieh-ch'eng (1776/2638/6134)

LI Jen-jung (7120/0088/2837)

HUANG Kang (7806/6474)

HUANG Ching-chien (7806/2417/1017)

All of the Institute of Organic Chemistry, Chinese Academy of Sciences; authors of an article, "Studies on Peptides. I. Synthesis of Protected N-terminal Pentapeptides of the A-chain of Insulin." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 114-132)

WANG Yu (3076/3731)

HUANG Ching-chien (7806/2417/1017)

CHANG Wei-chun (1728/0251/0689)

T'U Ch'uan-chung (1458/0278/1318)

WANG Chih-ch'in (3769/1807/0530)

HSU Yuan-yao (1776/0337/3613)

T'ANG Yung-shih (3282/3057/3290)

LI Yun-hua (7120/5686/5478)

KUNG Yueh-t'ing (7895/1547/0080)

All of the Institute of Organic Chemistry, Chinese Academy of Sciences; authors of an article, "Studies on Peptides II. Synthesis of a Protected C-terminal Nonapeptide of the A-chain of Insulin." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 3, Jun 63, pp 190-204)

WANG Yung-ch'ang

TU Yuan-ts'ai

Both affiliated with Joint Institute of Nuclear Research; co-authors with V. A. Belyakov, V. I. Veksler, N. M. Viryasov, Kim Hui In, Ye. N. Kladnitskaya, A. A. Kuznetsov, Nguyen Din

Shi, V. N. Pancey, and M. I. Solov'yev of article, "On the Polarization of  $\pi$ -Hyperons Produced in  $\pi^+p$  Interactions at 7 BeV," in Russian; received for publication 13 March 1963. (Moscow, Akademiya Nauk SSSR, Zhurnal Eksperimental'noy Teoreticheskoy Fiziki, Vol 45, No 2, Aug 63, pp 90-92)

WU Chao-lin, Scientific-Research X-Ray-Radiological Institute, Ministry of Public Health RSFSR; coauthor with A. V. Kozlova of article, "Distribution of the Dose Field in Distance Gamma-Therapy of Malignant Nasopharyngeal Tumors," in Russian; received for publication 13 March 1963. (Moscow, Meditsinskaya Radiologiya, Vol 8, No 8, aug 63, pp 3-10)

WU Chin-Kuang (0702/3866/0342)

HSU Kuang-hsien (1776/0342/2009)

Both of Peking University; authors of an article, "Ionization Constants of d-Tartaric Acid and Stability Constants of Tartrate Complexes of the Alkaline Metal Ions." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 3, Jun 63, pp 173-180)

WU Ching-hsiang (0702/0079/7449) of the Institute of Materia Medica, Chinese Academy of Sciences; author of an article, "A Rapid Method for the Microdetermination of Methoxyl Group." (Peiping, Hus-hsueh Hsueh-pao, vol 29, No 1, Feb 63, pp 54-57)

WU Chung-hsien (0702/0112/6343), Peking Agricultural University; author of an article, "The Present State of Darwinian Literature." (Peiping, Sheng-wu hsueh T'ung-pao, No 2, Mar 63, pp 24-33)

WU-lin (0702/0022/0243), Institute of Forestry, Chinese Academy of Forestry, Sciences; author of an article, "Notes on Huang-shan Pine of Huang-shan, Anhwei Province." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 114-127)

WU Hao-ch'ing (0702/3185/7230)

LIU Chih-ch'eng (2651/1807/2052)

Both of the Department of Chemistry, Fudan University; coauthors of an article, "The Zero Change Potential of Antimony." (Peiping, Hus-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 95-98)

C-O-N-F-I-D-E-N-T-I-A-L

WU Hsiang-yu (0702/4161/6877), Department of Biology, Peking University and Institute of Botany, Chinese Academy of Sciences; author of an article, "Can There Be Life Without Water?" (Peiping, Sheng-wu-hsueh T'ung-pao, No 2, Mar 63, pp 46-49)

WU Meng-yen (0702/k322/3508)

CH'EN Yao-tsu (7155/5069/4371)

Both of the Chemistry Department, Lan-chou University; coauthors of an article titled "The Determination of Organic Compounds VII, Micro-metric Methods (1) Determination of Elements in an Organic Compound by a Combination of Oxygen Bottle Combustion and Ring Oven Techniques." (Peiping, K'o-hsueh T'ung-pao, No 6, Jun 63, pp 44-45)

YANG Chen-hsiang, Leningrad Polytechnic Institute imeni M. I. Kalinin; author of dissertation for the scientific degree of Candidate of Technical Sciences, "Fine Sharpening of Steels With Mineral-Ceramic Cutters," in Russian. (Moscow, Vestnik Mashinostroyeniya, Vol 43, No 8, Aug 63, p 92)

YANG Kung-fan;

Coauthors with others of article, listed under the heading "Materials for the Atomic Industry" and titled "Thermodynamic Investigation of Thorium Oxychloride," in Russian; first published in Zhurnal Neorganicheskoy Khimii, Volume 8, No 1, 1963, Pages 89-93. Moscow, Atomnaya Energiya, Vol 14, No 2, Aug 63, p 186)

YANG P'i-p'eng (2799/0012/7720), Department of Chemistry, Yunnan University; author of an article "Energy of Crystal Ion Lattice and Electric Negation of Irons." (Peiping, Hua-hsueh Hsueh-pao, Vol 29, No 2, Apr 63, pp 143-146)

YANG Shih, Physicotechnical Laboratory, Academy of Sciences Armenian SSR; author of article, "Ferromagnetic Resonance in Strong Magnetic Fields," in Russian; received for publication 10 January 1963. (Yerevan, Doklady Akademii Nauk Armyanskoy SSR, Vol 37, No 2, 1 Aug 63, pp 65-71)

C-O-N-F-I-D-E-N-T-I-A-L

YEN Ching-ohun (0917/7234/0689), Institute of Forestry, Chinese Academy of Forestry Sciences; author of an article, "A Brief Report of Research on the Cinnamomum Camphora Sawfly." (Peiping, Lin-yeh K'o-hsueh, [Scientia Silvae], Vol 8, No 2, Apr 63, pp 184-186)

YU T'ien-jen (2456/1131/0088), Institute of Soils, Chinese Academy of Sciences; author of an article, "Changes of Energy in the Chemical Reactions of Soils." (Peiping, T'u-jang Hsueh-pao, [Acta Pedologica Sinica], Vol 11, No 1, 1963, pp 99-109)

\* \* \*



Web page: DCA 9806

7 September 2004

Ms. Roberta Schoen  
Deputy Director for Operations  
Defense Technical Information Center  
7725 John J. Kingman Road  
Suite 0944  
Ft. Belvoir, VA 22060

Dear Ms. Schoen:

In February of this year, DTIC provided the CIA Declassification Center with a referral list of CIA documents held in the DTIC library. This referral was a follow on to the list of National Intelligence Surveys provided earlier in the year.

We have completed a declassification review of the "Non-NIS" referral list and include the results of that review as Enclosure 1. Of the 220 documents identified in our declassification database, only three are classified. These three are in the Release in Part category and may be released to the public once specified portions of the documents are removed. Sanitization instructions for these documents are included with Enclosure 1.

In addition to the documents addressed in Enclosure 1, 14 other documents were unable to be identified. DTIC then provided the CDC with hard copies of these documents in April 2004 for declassification review. The results of this review are provided as Enclosure 2.

We at CIA greatly appreciate your cooperation in this matter. Should you have any questions concerning this letter and for coordination of any further developments, please contact Donald Black of this office at (703) 613-1415.

Sincerely,

A handwritten signature in black ink that reads "Sergio N. Alcivar".

Sergio N. Alcivar  
Chief, CIA Declassification Center,  
Declassification Review and Referral  
Branch

Enclosures:

1. Declassification Review of CIA Documents at DTIC (with sanitization instructions for 3 documents)
2. Declassification Status of CIA Documents (hard copy) Referred by DTIC (with review processing sheets for each document)



## Processing of OGA-Held CIA Documents

The following CIA documents located at DTIC were reviewed by CIA and declassification guidance has been provided.

OGA Doc ID	Job Num	Box	Fldr	Doc	Doc ID	Document Title	Pub Date	Pages	Decision	Proc Date
AD0335308	78-03117A	194	1	23	4363	Scientific Information Report Chemistry And Metallurgy (26)	3/7/1963	71	Approved For Release	3/25/2004
AD0335625	78-03117A	197	1	3	4460	Scientific Information Report Chemistry And Metallurgy (27)	4/4/1963	51	Approved For Release	3/25/2004
AD0336825	78-03117A	199	1	26	4562	Scientific Information Report Chemistry And Metallurgy (28)	5/9/1963	70	Approved For Release	3/25/2004
AD0332150	78-03117A	183	1	5	3916	Scientific Information Report Chinese Science (11)	10/4/1962	52	Approved For Release	3/29/2004
AD0332434	78-03117A	183	1	40	3951	Scientific Information Report Chinese Science (12)	10/19/1962	59	Approved For Release	3/29/2004
AD0332795	78-03117A	184	1	37	3988	Scientific Information Report Chinese Science (13)	11/5/1962	48	Approved For Release	3/29/2004
AD0333069	78-03117A	186	1	7	4028	Scientific Information Report Chinese Science (14)	11/16/1962	30	Approved For Release	3/29/2004
AD0333148	78-03117A	187	1	19	4078	Scientific Information Report Chinese Science (15)	11/29/1962	44	Approved For Release	3/29/2004
AD0333835	78-03117A	189	1	6	4144	Scientific Information Report Chinese Science (16)	12/21/1962	65	Approved For Release	3/29/2004
AD0334108	78-03117A	190	1	2	4179	Scientific Information Report Chinese Science (17)	1/10/1963	56	Approved For Release	3/29/2004
AD0334105	78-03117A	191	1	12	4230	Scientific Information Report Chinese Science (18)	1/18/1963	25	Approved For Release	3/29/2004
AD0334378	78-03117A	192	1	21	4277	Scientific Information Report Chinese Science (19)	2/1/1963	27	Approved For Release	3/29/2004
AD0334433	78-03117A	193	1	22	4322	Scientific Information Report Chinese Science (20)	2/15/1963	28	Approved For Release	3/29/2004
AD0335021	78-03117A	194	1	37	4377	Scientific Information Report Chinese Science (21)	3/8/1963	59	Approved For Release	3/29/2004
AD0335847	78-03117A	198	1	33	4526	Scientific Information Report Chinese Science (22)	4/18/1963	61	Approved For Release	3/29/2004
AD0336327	78-03117A	200	1	3	4578	Scientific Information Report Chinese Science (23)	5/2/1963	68	Approved For Release	3/29/2004
AD0337167	78-03117A	201	1	26	4643	Scientific Information Report Chinese Science (24)	5/23/1963	95	Approved For Release	3/29/2004
AD0337777	78-03117A	202	1	27	4687	Scientific Information Report Chinese Science (25)	6/6/1963	52	Approved For Release	3/29/2004
AD0338474	78-03117A	203	1	27	4727	Scientific Information Report Chinese Science (26)	6/20/1963	83	Approved For Release	3/29/2004
AD0338687	78-03117A	204	1	32	4772	Scientific Information Report Chinese Science (27)	7/5/1963	80	Approved For Release	3/29/2004
AD0339386	78-03117A	206	1	4	4820	Scientific Information Report Chinese Science (28)	7/17/1963	32	Approved For Release	3/29/2004
AD0339147	78-03117A	207	1	11	4862	Scientific Information Report Chinese Science (29)	7/30/1963	48	Approved For Release	3/29/2004
AD0340927	78-03117A	208	1	35	4924	Scientific Information Report Chinese Science (30)	8/21/1963	53	Approved For Release	3/29/2004
AD0341855	78-03117A	209	1	43	4974	Scientific Information Report Chinese Science (31)	9/5/1963	46	Approved For Release	3/29/2004
AD0342464	78-03117A	210	1	38	5013	Scientific Information Report Chinese Science (32)	9/16/1963	43	Approved For Release	3/29/2004
AD0342608	78-03117A	211	1	36	5054	Scientific Information Report Chinese Science (33)	9/27/1963	41	Approved For Release	3/29/2004