Table 3. *Ordering of general positions in Pn3n–O_h^2*

Block No.

$x\,y\,z$	$\frac{1}{2}-x, \frac{1}{2}-y, z$	$x, \frac{1}{2}-y, \frac{1}{2}-z$	$\frac{1}{2}-x, y, \frac{1}{2}-z$	
$z\,x\,y$	$\frac{1}{2}-z, \frac{1}{2}-x, y$	$z, \frac{1}{2}-x, \frac{1}{2}-y$	$\frac{1}{2}-z, x, \frac{1}{2}-y$	1
$y\,z\,x$	$\frac{1}{2}-y, \frac{1}{2}-z, x$	$y, \frac{1}{2}-z, \frac{1}{2}-x$	$\frac{1}{2}-y, z, \frac{1}{2}-x$	
$\frac{1}{2}-y, \frac{1}{2}-x, \frac{1}{2}-z$	$y, x, \frac{1}{2}-z$	$\frac{1}{2}-y, x, z$	$y, \frac{1}{2}-x, z$	
$\frac{1}{2}-z, \frac{1}{2}-y, \frac{1}{2}-x$	$z, y, \frac{1}{2}-x$	$\frac{1}{2}-z, y, x$	$z, \frac{1}{2}-y, x$	2
$\frac{1}{2}-x, \frac{1}{2}-z, \frac{1}{2}-y$	$x, z, \frac{1}{2}-y$	$\frac{1}{2}-x, z, y$	$x, \frac{1}{2}-z, y$	
$\bar{x}\,\bar{y}\,\bar{z}$	$\frac{1}{2}+x, \frac{1}{2}+y, \bar{z}$	$\bar{x}, \frac{1}{2}+y, \frac{1}{2}+z$	$\frac{1}{2}+x, \bar{y}, \frac{1}{2}+z$	
$\bar{z}\,\bar{x}\,\bar{y}$	$\frac{1}{2}+z, \frac{1}{2}+x, \bar{y}$	$\bar{z}, \frac{1}{2}+x, \frac{1}{2}+y$	$\frac{1}{2}+z, \bar{x}, \frac{1}{2}+y$	3
$\bar{y}\,\bar{z}\,\bar{x}$	$\frac{1}{2}+y, \frac{1}{2}+z, \bar{x}$	$\bar{y}, \frac{1}{2}+z, \frac{1}{2}+x$	$\frac{1}{2}+y, \bar{z}, \frac{1}{2}+x$	
$\frac{1}{2}+y, \frac{1}{2}+x, \frac{1}{2}+z$	$\bar{y}, \bar{x}, \frac{1}{2}+z$	$\frac{1}{2}+y, \bar{x}, \bar{z}$	$\bar{y}, \frac{1}{2}+x, \bar{z}$	
$\frac{1}{2}+z, \frac{1}{2}+y, \frac{1}{2}+x$	$\bar{z}, \bar{y}, \frac{1}{2}+x$	$\frac{1}{2}+z, \bar{y}, \bar{x}$	$\bar{z}, \frac{1}{2}+y, \bar{x}$	4
$\frac{1}{2}+x, \frac{1}{2}+z, \frac{1}{2}+y$	$\bar{x}, \bar{z}, \frac{1}{2}+y$	$\frac{1}{2}+x, \bar{z}, \bar{y}$	$\bar{x}, \frac{1}{2}+z, \bar{y}$	

The decomposition of space groups in cosets shown in the examples given, can be carried out in the same manner in the other space groups of the same point groups. In a space group of $4/mm$–D_{4h} [see (5)] there are in the first line the representatives $\{4\}$ of the corresponding subgroup belonging to point group 4–C_4, in the other lines the representatives of the cosets $\{4\}(2_x|\tau_x)$, $\{4\}(\bar{1}|\tau_{\bar{1}})$, and $\{4\}(m_x|\tau_m,)$ where $(m_x|\tau_m)=(2_x|\tau_x)\,(\bar{1}|\tau_{\bar{1}})$. Therefore the corresponding subgroups are given by

$\{4\}+\{4\}(2_x|\tau_x)$, a space group belonging to 422–D_4,
$\{4\}+\{4\}(\bar{1}|\tau_{\bar{1}})$, a space group belonging to $4/m$–C_{4h} and
$\{4\}+\{4\}(m_x|\tau_m)$, a space group belonging to $4mm$–C_{4v}.

Similarly (see Table 3), for a space group of $m3m$–O_h

$$\{m3m–O_h\}=\{T\}+\{T\}(2_d|\tau)+\{T\}(\bar{1}|\tau_{\bar{1}})+\{T\}(m|\tau)_m$$

where

$$(m|\tau_m)=(2_d|\tau')\,(\bar{1}|\tau_{\bar{1}})\,.$$

Subgroups, the representatives of which are $\{T\}+\{T\}(2'|\tau')$, $\{T\}+\{T\}(\bar{1}|\tau_{\bar{1}})$, and $\{T\}+\{T\}(m|\tau_m)$, belong to point groups 432–O, $m3$–T_h, and $\bar{4}3m$–T_d respectively.

We would like to thank Dr J. Neubüser, Aachen, who suggested the use of subnormal chains for ordering the 'general positions', for critically reading the manuscript and for fruitful discussions, and also the referee for improvements of style and for suggesting the notation 2_d for a diagonal binary axis.

References

International Tables for X-ray Crystallography (1969). Vol. I. Birmingham: Kynoch Press.
Internationale Tabellen zur Bestimmung von Kristallstrukturen (1935). Vol. I. Berlin: Bornträger.

Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the Executive Secretary of the International Union of Crystallography (J.N.King, 13 White Friars, Chester CH1 1NZ, England).

Professor Kathleen Lonsdale
1903–1971

Professor Dame Kathleen Lonsdale died on 1 April, 1971. She was Professor of Chemistry and Head of the Department of Crystallography, University College, London from 1949 to 1968. Her many contributions to crystallography included her work as General Editor of the three volumes of *International Tables for X-ray Crystallography*. She was one of the first women to be elected Fellow of the Royal Society and the first woman President of the British Association for the Advancement of Science. As President of the International Union of Crystallography she chaired the sessions of the Seventh General Assembly in Moscow, 1966.

A full obituary will be published in *Acta Crystallographica*, Section A in due course.

Molecular Structures and Dimensions

The Executive Committee of the International Union of Crystallography has pleasure in announcing the publication of a new series of standard reference books entitled *Molecular Structures and Dimensions*. The aim of the series is to make the results of structural investigations by diffraction and related methods readily available to all scientists interested in molecular structures. It is designed to be easily usable by specialist crystallographers and by academic and industrial research workers in the related fields of chemistry, biochemistry, molecular biology and pharmacology. The new series is a continuation and extension of the *Tables of Interatomic Distances in Molecules and Ions* (Chemical Society Special Publication), which covered the literature up to the end of 1959.

The first two volumes of the series are now available.

They are edited by Olga Kennard and David G. Watson at the Crystallographic Data Centre, Cambridge, England and contain classified bibliographic information for over 4000 structures. Literature coverage is comprehensive from 1935 to 1 January 1969 and there are 500 additional references to 1969 publications. Volume 1 deals with general organic crystal structures and Volume 2 with complexes, organo-metals and metalloids. Entries are arranged in chemical classes with extensive cross-references. Individual compounds can be located through the formula or metal index and there is also an author index. The bibliography is the first attempt at bringing together all publications on related structures and provides a survey to the various areas of organic and organometallic chemistry which have been investigated by X-ray and neutron diffraction methods.

The series is published for the Union, in conjunction with the Crystallographic Data Centre, by A. Oosthoek's Uitgevers Mij N.V., Doomstraat 5–13, Utrecht, The Netherlands, from whom the first two volumes may now be obtained. Volume 1 costs 45 Netherlands Guilders (U.S. $ 12.50 or £ 5·25 at the present rates of exchange) and Volume 2 costs 35 Netherlands Guilders (U.S. $ 10.00 or £ 4·20). Copies for the personal use of scientists may be obtained at the reduced prices of 32 Netherlands Guilders (U.S. $ 9.00 or £ 3·75) for Volume 1 and 27 Netherlands Guilders (U.S. $ 7.50 or £ 3·15) for Volume 2. All prices include postal charges. Copies may also be obtained from Polycrystal Book Service, P.O. Box 11567, Pittsburgh, Pa. 15238, U.S.A., or through any bookseller. Standing orders can be placed for future volumes.

Diffusion des Rayons X aux Petits Angles (Bibliography)

The fourth and last bibliography in the recent series prepared under the auspices of the Commission on Crystallographic Apparatus of the International Union of Crystallography, *Diffusion des Rayons X aux Petits Angles*, by A. J. Renouprez, has been published. Copies have been distributed free of charge to all subscribers to *Acta Crystallographica* or the *Journal of Applied Crystallography* in 1970. Additional copies can be obtained from A. Oosthoek's Uitgevers Mij N.V., Doomstraat 5–13, Utrecht, The Netherlands, at the price of 10 Netherlands Guilders (U.S. $ 3.00 or £ 1·25 at the present rates of exchange) per copy, including postage. In the event of foreign exchange difficulties, UNESCO coupons will be accepted. Orders

may also be placed with Polycrystal Book Service, P.O. Box 11567, Pittsburgh, Pa. 15238, U.S.A., or with any bookseller.

American Crystallographic Association *Ad hoc* Committee on Small-Angle X-ray Scattering

A computerized international mailing list is being prepared of all researchers who are active or interested in small-angle X-ray or neutron scattering. This list will be used by the ACA, the IUCr, or other qualified professional organizations exclusively for dissemination of information of interest to the field (*e.g.* announcements of forthcoming small-angle meetings, workshops, *etc.*). The list will be coded both geographically and by field of interest in order that selective mailing lists can be prepared.

All persons who wish to be included in this compilation should send a post card to Robert W. Hendricks, Metals and Ceramics Division, Oak Ridge National Laboratory, P.O. Box X, Oak Ridge, Tennessee 37830, U.S.A. with the following information: (1) name and title; (2) complete mailing address; (3) membership in crystallographic organizations; and (4) field of interest (choose up to 3): (*a*) All areas of SAS. (*b*) Inorganic materials. (*c*) Polymers. (*d*) Biological. (*e*) Liquids and solutions. (*f*) Critical phenomena. (*g*) Neutron SAS. (*h*) Theory. (*i*) Other.

Symposium on X-ray Topography Bristol, England, 29–30 September 1971

An International Symposium on X-ray Topography will be held at the H. H. Wills Physics Laboratory, University of Bristol, England, on 29–30 September 1971. The aims are (*a*) to present invited papers reviewing particular aspects of X-ray topography and its relevance to problems of current academic and industrial interest, (*b*) to offer a forum for reporting recent applications of X-ray topography and development in technique and (*c*) to provide ample opportunity for informal discussion and exchange of ideas through personal contact between those attending the symposium.

For information, including details of residential accommodation available in a University hall of residence nearby, and the procedure for the submission of papers, contact Mr P. J. Duggan, Elliott Brothers (London) Limited, Elstree Way, Borehamwood, Hertfordshire, England.

Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (M. M. Woolfson, Physics Department, University of York, Heslington, York YO1 5DD, England). As far as practicable books will be reviewed in a country different from that of publication.

Magnetic neutron diffraction. By YU A. IZYUMOR and R. P. OZEROV. Pp. xviii + 598. New York: Plenum Press, 1970. Price $ 37.50, £7·50. DM 150.

This is an essential book for the research worker whose task relates to the study and interpretation of magnetic

structures. It is based, with some corrections and editions, on a Russian edition for which the manuscript was completed in 1965 and its scope is somewhat different from what the title might suggest. As the foreword makes clear, the aim of the book is twofold – not only to describe particular methods of studying the neutron scattering which is due to