

References

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Acta Cryst. (1957). **10**, 485

Three-dimensional flexible molecular models. By FREDERICK S. LEE, *Metcalf Research Laboratory, Brown University, Providence 12, Rhode Island, U.S.A.*

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The purpose of this communication is to point out another method of building three-dimensional experimental molecular models inexpensively and quickly.

In this method atoms are fashioned out of styrofoam and slid along stiff wires supported in an oil-based modeling clay. In Fig. 1 the clay base is shown covered with aluminum foil to make a clean working surface and to keep the clay in a pliable condition. The obvious ad-

vantage of using a clay base is that large holes which are formed by repeated positioning of wires in a small area can be easily removed, unlike rigid bases of cork, styrofoam, etc.

Styrofoam lends itself, however, very well for making atoms because of its lightness, strength, and easy working characteristics (Gibb & Bassow, 1957). Spheres of styrofoam may be purchased (Polymer Tempera Plastics, Inc., 166 Newbury St., Boston, Massachusetts, U.S.A.) or they may be very quickly made to any size by grinding a cube of styrofoam against the end of a glass tube which has a diameter slightly smaller than the desired finished diameter. Further, styrofoam may be tinted with colored inks or water-based tempera poster paints.

It is felt that this method offers a way of making accurate and attractive models. Because of its flexibility it also provides for easy visualization of trial structures.

If permanent close-packed or display models are to be constructed, a Polymer Tempera binding medium is available which will bond styrofoam together. Finely divided metals or pigments may be placed in this binding medium to form a vividly colored and waterproof coating material.

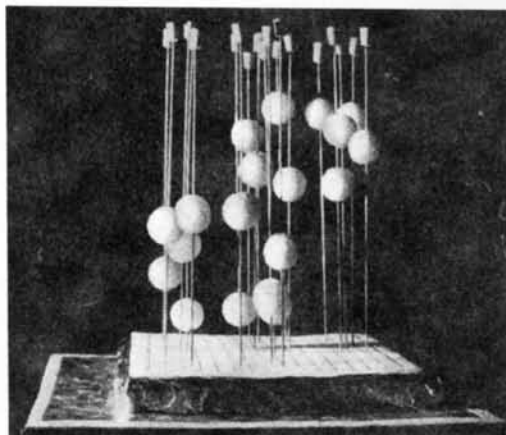


Fig. 1. Photograph of three-dimensional model.

Reference

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34, 99.

Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. Copy should be sent direct to the British Co-editor (R. C. Evans, Crystallographic Laboratory, Cavendish Laboratory, Cambridge, England).

Kristallografiya

Volume 2, Part 2, (1957)

Obituary of VIKTOR IVANOVICH MIKHEEV.

I. S. ZHELUDEV. The symmetry of scalars, vectors and tensors of the second rank.

R. P. OZEROV, G. A. GOL'DER and G. S. ZHDANOV. X-ray study of the structures of the vanadium oxide bronzes of sodium and potassium, $M_{0.33}V_2O_5$.

R. P. OZEROV. The crystal chemistry of vanadium oxide bronzes.

YU. N. VENEVTSEV, A. G. KAPYSHEV and YU. V. SHUMOV.

X-ray investigation of the system $PbTiO_3$ - $BaSnO_3$.
 E. K. YUKHNO and M. A. PORAI-KOSHITS. The structure of crystals of nickel *trans*-di-isothiocyano-tetra-

ammine.
 A. I. BUBLIK. Electronographic investigation of the structure of thin liquid layers of tin.

A. I. BUBLIK and A. G. BUNTAR. The determination of the radial distribution function of the atoms in a liquid metallic alloy from an electronogram.

L. I. TATARINOVA. An electronographic study of amorphous antimony sulphide.

S. S. BATSANOV. The refractometric determination of the structure of complex cobalt compounds.
 V. E. KOCHNOV and M. P. SHASKOL'SKAYA. Investigation of slip lines in crystals of silver chloride.

Short communications

YA. YA. BLEIDELIS. The crystal structure of *cis*-[Pt(NH₃)₂(SCN)₂].
 YA. YA. BLEIDELIS and G. B. BOKII. The crystal structure of the *trans*-diamminothiocyanate of bivalent platinum.
 YU. A. BAGARYATSKII. The crystal structure of the metastable phase formed on tempering alloys of Cu and Sn having 24–27% Sn.
 S. A. SEMILETOV and M. ROZSIVAL. Electronographic investigation of films of InSb.
 G. S. ZHDANOV, N. N. ZHURAVLEV, A. A. STEPANOVA and M. M. UMANSKII. The crystal chemistry of metal hexaborides.
 L. G. LEITEIZEN, B. M. GLUKHOVSKOI and I. YA. BREIDO. A photomultiplier for scintillation counters for γ -ray spectrometers.
 V. P. KONSTANTINOVA and V. A. YURIN. Peculiarities in the polarization of impure Rochelle salt.

I. YA. EISNER. On certain changes in the dielectric properties of crystals of Rochelle salt irradiated with X-rays.
 K. N. BARANSKII. The excitation of hypersonic oscillations in quartz.
 V. E. KOCHNOV. Non-uniformity of the strain distribution in a polycrystalline grain in the initial stage of the process of plastic deformation.
 I. M. SIL'VESTROVA. Determination of the coefficients of thermal conductivity of crystals of ethylene diamine tartrate.
 G. K. ABDULLAEV. On certain new simple forms of pyrites.
 KH. S. BAGDASAROV and V. YA. KHAIMOV-MAL'KOV. Certain experimental data on the nature of the formation of etch figures in an ultrasonic field.

The structure of Guinier-Preston zones. II

Errors occur in the above article by K. Toman (*Acta Cryst.* (1957), **10**, 187). In Table 1, column π^2c_n , 0.10 and 0.35 should read -0.10 and -0.35. In Table 3, column π^2c_n (scale factor = 1), -0.12 should read 0.12.

Book Reviews

Works intended for notice in this column should be sent direct to the Editor (P. P. Ewald, Polytechnic Institute of Brooklyn, 99, Livingston Street, Brooklyn 2, N.Y., U.S.A.). As far as practicable books will be reviewed in a country different from that of publication.

The Barker Index of Crystals. A Method for the Identification of Crystalline Substances.

By M. W. PORTER and R. C. SPILLER. Vol. II: Crystals of the Monoclinic System. Part I: Introduction and Tables. Pp. vi + 383. Parts 2 and 3: Crystal Descriptions M. 1–M. 1800 and M. 1801–M. 3572. Published for the Barker Index Committee. Cambridge: Heffer. 1956. Price £10.

Le premier volume de l'*Index de Barker* parut en 1951; il a fait l'objet de divers comptes-rendus (voir références). Nous souhaitons aujourd'hui la bienvenue au deuxième volume, consacré aux cristaux monocliniques. Il porte à 6500 le total des substances désormais déterminables par la méthode de Barker. Seul reste en souffrance le système triclinique: il fera son apparition sous peu, comme troisième et dernier volume.

Le plan de l'ouvrage reste inchangé. En une cinquantaine de pages et 43 figures, M. H. Hey (du British Museum) montre comment on applique la méthode au cas monoclinique. Cette introduction, qui inclut 19 exemples traités en grand détail, se termine par un choix de 25 exercices (pour tel cristal, dont on donne les faces par les coordonnées angulaires de leur normale, il s'agit de calculer les angles paramétriques et de les retrouver dans l'*Index*). Pour les professionnels, un tableau synoptique condense les instructions en une page. Nous retrouvons, reproduite en 16 pages, l'élégante 'Table des Tangentes Multiples' qu'imagina Barker pour faciliter le

calcul des zones orthogonales. Soient $c(001)$, $r(101)$, $a(100)$, $m(110)$, $b(010)$, $q(011)$ les faces entre lesquelles se situent les angles paramétriques; Barker donnait ces derniers dans l'ordre cr , ra , am , bq . La table déterminative les permute cycliquement (heureuse innovation!) de façon à mettre en tête l'angle de classification am , suivant les valeurs croissantes duquel les substances se trouvent rangées. La table donne par surcroît l'angle ca , presque toujours superflu, mais indispensable dans certains cas de cristaux 'sous-développés'.

Trois tables déterminatives auxiliaires sont basées sur les indices de réfraction (~ 800 substances), la densité (~ 1000 substances) et le point de fusion (~ 1870 substances). Ici, les substances sont désignées uniquement par leur numéro d'ordre, numéro sous lequel figure leur description cristallographique dans la partie systématique de l'ouvrage. Cette dernière comprend deux gros tomes. Pour nous épargner de les compiler trop souvent, on nous offre (autre nouveauté, dont coût 46 pages) la liste des noms de substances en regard des numéros d'ordre. La table déterminative principale continue néanmoins à donner le nom, en plus du numéro. Compte tenu des deux répertoires alphabétiques, l'un en anglais, l'autre en allemand (pour les quelques 3450 descriptions tirées de Groth), il appert que le nom de chacune des 3572 substances est imprimé six fois. Le Barker Committee, franchement, n'est pas regardant!

Si l'on considère qu'un même point de fusion appartient généralement, à 2 ou 3° C. près, à cinquante composés ou davantage, on ne peut qu'être frappé de l'inefficacité