

1974). The ratios of atoms with CN16, CN15, CN14 and CN12 are 2:2:2:7 for all three structure types.

The hypothetical structure shown by Steinmetz *et al.* (1982) in Fig. 3(b) has the same tessellations for the secondary network ( $4^2.3^3$ ) as does the t.c.p.  $\mu$  phase, mentioned above, and shown in Shoemaker & Shoemaker (1969) in Fig. 6(a). Its projection, however, is not identical to the  $\mu$ -phase projection, which would be obtained if the transformation mechanism described by Steinmetz *et al.* to obtain Fig. 3(b) were performed on a structural slab running in the **b** direction, rather than in the **a** direction. {In this case the middle slab also has to be shifted in the [001] direction and infinite rows of atoms similar to those in Fig. 3(b) are not formed.}

The hypothetical t.c.p. structure (with two main layers and two secondary layers), which has a *c* projection almost identical to the hypothetical structure in Fig. 3(b), is also a four-layer structure when projected down [130] of  $\text{TiMnSi}_2$ . When viewed in that direction the main layers consist of alternating rows of hexagons and pentagons, and the

secondary layers have  $3^6$  tessellations. It is the hypothetical t.c.p. structure shown in Fig. 7(b) of Shoemaker & Shoemaker (1969). It is a fourth t.c.p. structure that may be formulated as  $R_6X_7$ , and that has the same ratios of atoms with the different coordination types as mentioned above.

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## International Union of Crystallography

*Acta Cryst.* (1983). **B39**, 655

### Chemical Nomenclature

The attention of authors is drawn to the following recommendations of the IUPAC Commission on Nomenclature of Organic Chemistry: *The Designation of Non-Standard Classical Valence Bonding in Organic Nomenclature* [*Pure Appl. Chem.* (1982), **54**, 217–227], *Revision of the Extended Hantzsch–Widman System of Nomenclature for Heteromonocycles* [*Pure Appl. Chem.* (1983), **55**, 409–416]; and to the following recent recommendations of the IUPAC–IUB Joint Commission on Biochemical Nomenclature: *Symbols for Specifying the Conformation of Polysaccharide Chains* [*Eur. J. Biochem.* (1983), **131**, 5–7], *Abbreviations and Symbols for the Description of Conformation of Polynucleotide Chains* [*Eur. J. Biochem.* (1983), **131**, 9–15].

Authors are reminded that, wherever possible, chemical nomenclature in the Union's journals should conform to IUPAC rules. Basic rules for the nomenclature of inorganic chemistry are given in *Nomenclature of Inorganic Chemistry* (1970) ('The Red Book'), London: Butterworths and, for organic chemistry, in the two volumes *Nomenclature of Organic Chemistry, Sections A, B, C, D, E, F, & H* (1979) ('The Blue Book'), Oxford: Pergamon Press and *Biochemical Nomenclature and Related Documents* (1978), London: Biochemical Society. For further details on nomenclature requirements see *Notes for Authors* [*Acta Cryst.* (1983), **A39**, 174–186].

An index to all IUPAC nomenclature publications is available from the IUPAC Secretariat, Bank Court Chambers, 2–3 Pound Way, Cowley Centre, Oxford OX4 3YF.

## Book Reviews

*Works intended for notice in this column should be sent direct to the Book-Review Editor (J. H. Robertson, School of Chemistry, University of Leeds, Leeds LS2 9JT, England). As far as practicable books will be reviewed in a country different from that of publication.*

*Acta Cryst.* (1983). **B39**, 655–656

**Extended linear chain compounds, Vol. 3.** Edited by J. S. MILLER. Pp. xviii + 561. New York and London: Plenum Press, 1983. Price US \$55.00.

This third volume represents another ten review papers on one-dimensional chain compounds, and I can repeat the comment made already by H. Boller (1983) in his review of the first and second volumes (*Acta Cryst.* **B39**, 287), 'Each contribution covers its subject independently and can therefore be studied at the reader's choice'.

The first chapter describes the experimental results of Gillespie's (1971) prediction, 'It seemed reasonable to suppose that, if two mercury atoms could be bonded together ( $\text{Hg}_2^{2+}$ ), it might be possible to prepare cations containing three or even more mercury atoms covalently bonded together'. Chapter 2 deals extensively and systematically with the metal–metal chain bondings in hexagonal close-packed anion spheres (hexagonal perovskites); ferromagnetic properties of these compounds are dealt with in chapter 3. Chapters 4 and 5 turn to stacked organic charge-transfer complexes in which magnetic resonance results predominate amongst the many physical properties of these stacking