plane; in the **b** direction, we meet in succession two sheets of steroid molecules and one sheet made up of the included solvent. The steroid molecules in the same sheet are linked in the **a** direction by a hydrogen bond ($O\cdots O=2{\cdot}75$ Å, $O\text{–}H\cdots O=166°$). Each inclusion molecule is linked to a steroid molecule by a hydrogen bond involving the 17β-ol function ($O\cdots O=2{\cdot}86$ Å, $O\text{–}H\cdots O=158°$).

In the **b** and **c** directions, crystal cohesion is ensured by attractive van der Waals forces. No repulsive contacts are observed.

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SHORT COMMUNICATIONS

Contributions intended for publication under this heading should be expressly so marked; they should not exceed about 1000 *words; they should be forwarded in the usual way to the appropriate Co-editor; they will be published as speedily as possible.*

Acta Cryst. (1976). **B32**, 1298

Reply to *Comment on 'Struktur des tetragonalen* $(B_{12})_4B_2Ti_{1,3-2,0}$*' by E. Amberger and K. Polborn.*

By E. AMBERGER and K. POLBORN, *Institut für Anorganische Chemie der Universität, D-*8000 *München* 2, *Meiserstrasse* 1, *Deutschland (BRD)*

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Reduction of BCl_3 and $TiCl_4$ with H_2 on boron nitride substrate produces the analytically controlled carbon-free $(B_{12})_4B_2Ti_{1\cdot3-2\cdot0}$. Therefore the tetragonal unit cell contains boron on special equivalent point 2(*b*) and titanium on 2(*a*).

In the paper *Struktur des tetragonalen* $(B_{12})_4B_2Ti_{1,3-2,0}$ (Amberger & Polborn, 1975) the synthesis and structure of the berthollide titanium boride were described. The unit cell was found to contain four B_{12} icosahedra, two single boron atoms on special equivalent point 2(*b*), and a maximum of two titanium atoms on 2(*a*). Now Ploog (1976) in a comment on this paper argues that carbon is more likely to occupy the 2(*b*) position than boron.

But there are convincing arguments against this: (i) The crystal used for X-ray investigation was taken from a certain crystalline region of the boride deposit. The chemical analysis showed that this region was free from carbon. (ii) Furthermore each synthesis (reduction of gaseous BCl_3 and $TiCl_4$ with H_2) yielded the carbon-free titanium boride. An *I*-tetragonal titanium boride carbide $(B_{12})_4C_{\sim 2}Ti_{1\cdot5-2\cdot0}$ (Amberger, Polborn & Gerster, in preparation) was produced – and in fact is reproducible – under these conditions but only with an additional amount of CCl_4. In the latter cell, carbon occupies the 2(*b*) position and titanium the 2(*a*). (iii) The structure of the titanium boride was derived from photometrically measured X-ray patterns. The figures resulting from this procedure are not precise enough to signify a formula of the investigated compound other than the formula $(B_{12})_4B_2Ti_{1\cdot3-2\cdot0}$, derived from chemical and analytical findings.

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