

Building scheme for RWR



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1. Periodic Building Unit:

Building units of 8 T atoms are composed of four fused 5-rings (Figure 1(a)). The two-dimensional Periodic Building Unit (PerBU) is obtained when these T8-units, related by pure translations along a , and b , are connected into a layer with a tetragonal repeat unit (Figure 1(b)). Infinite saw chains along a , and along b (repeat distances: 7.5 Å) are formed. The PerBU can as well be built using 6-2 units (bold in Figure 1(b)). [Compare this PerBU with the PerBUs in **BEA**, **BEC**, **DAC**, **EPI** and **MOR**]

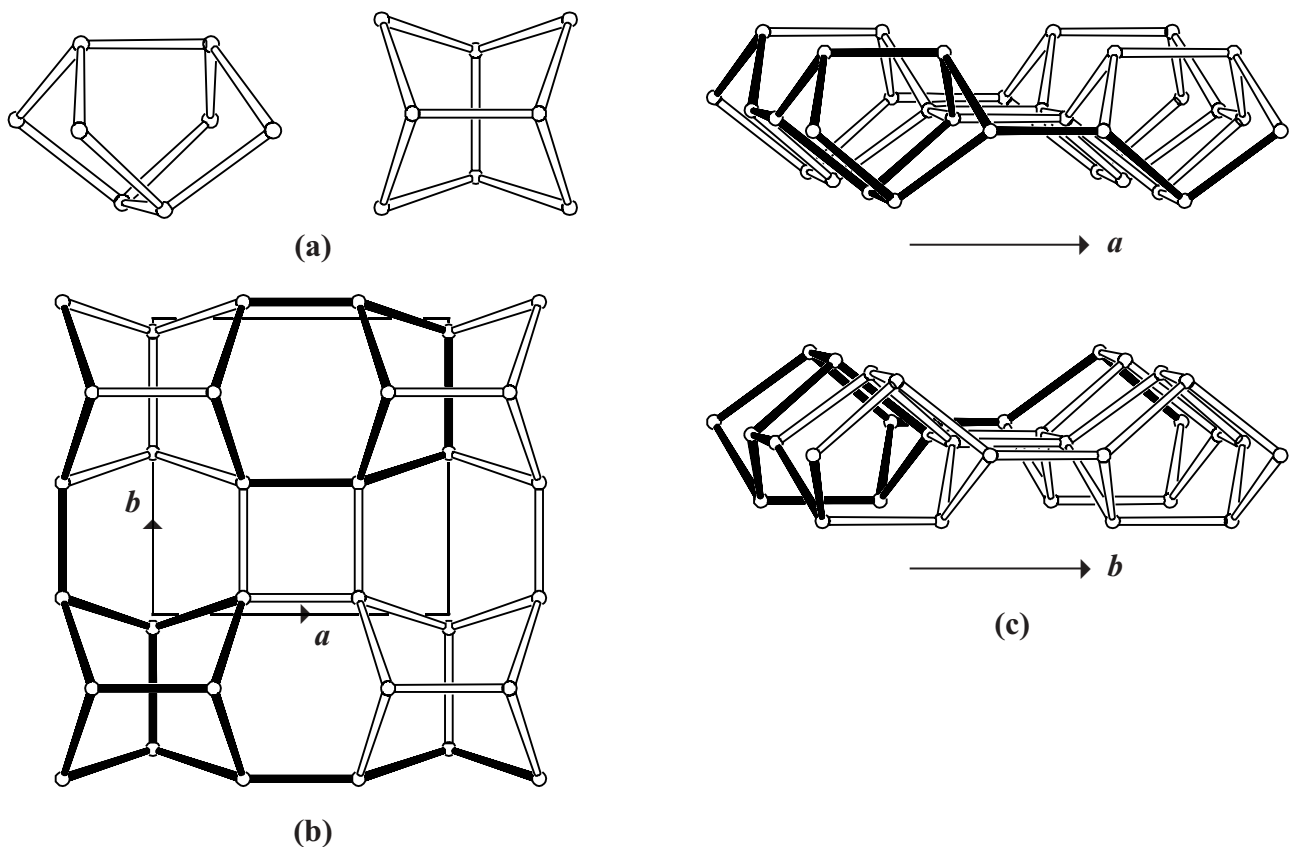



Figure 1. (a): T8-unit composed of four (fused) 5-rings seen along b (left) and along c (right); (b): parallel projection of the PerBU along c (one T8-unit, two saw chains and a 6-2 unit in bold). (c): Perspective views of the PerBU along b (top) and along a (bottom). The PerBUs shown are identical and related by a rotation of 90° about the plane normal c . 

2. Connection mode:

Neighboring PerBUs, related by a 90° rotation about the plane normal and a shift of $1/2a$ or $1/2b$ (denoted as $(1/2, 0)$ or $(0, 1/2)$), are connected along c through 6- and 8-rings as shown in Figure 2 on next page.

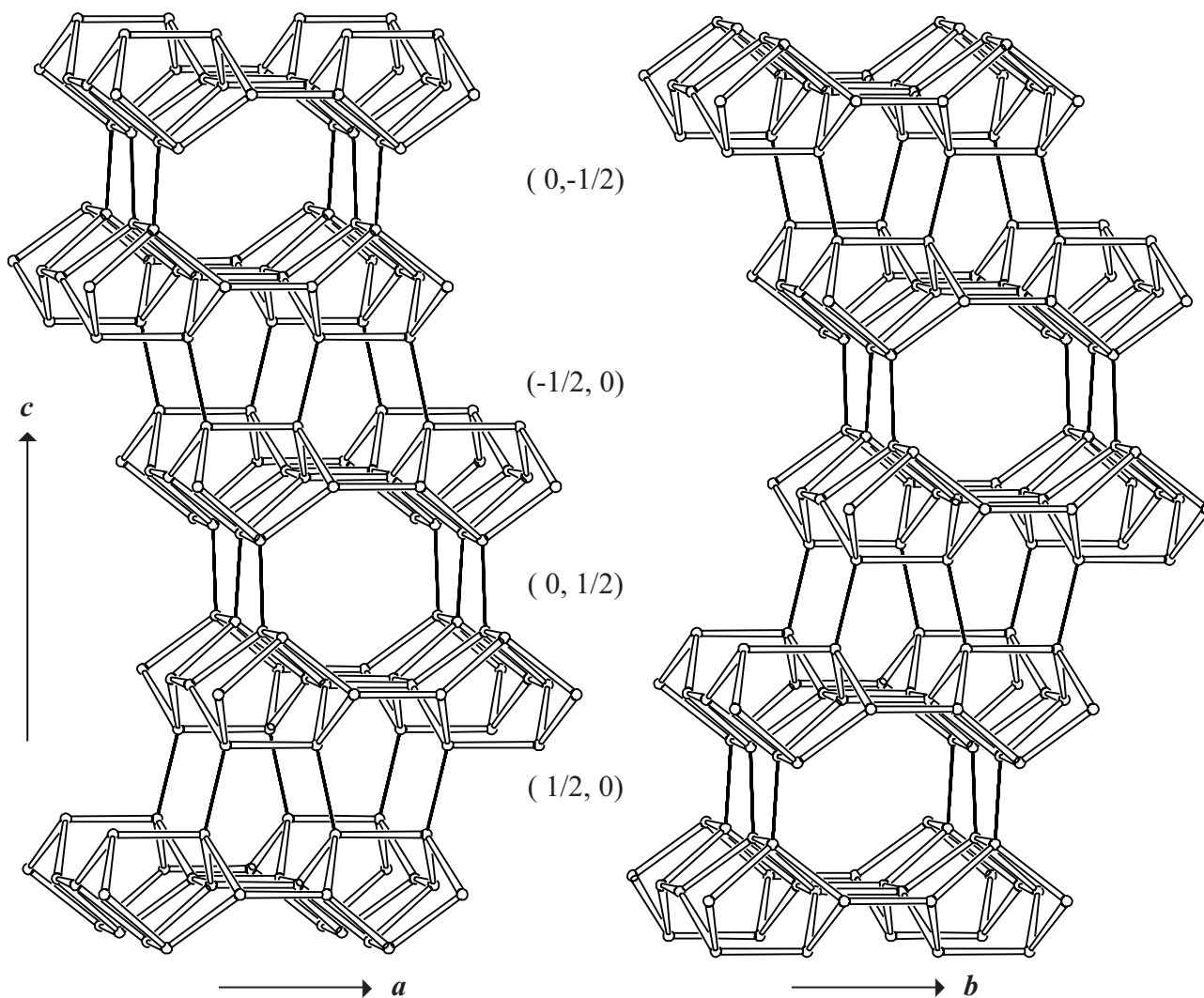


Figure 2. Connection mode in **RWR** viewed along b (left) and along a (right). The connection codes are given. ▲

3. Projections of the unit cell content: See Figure 3.

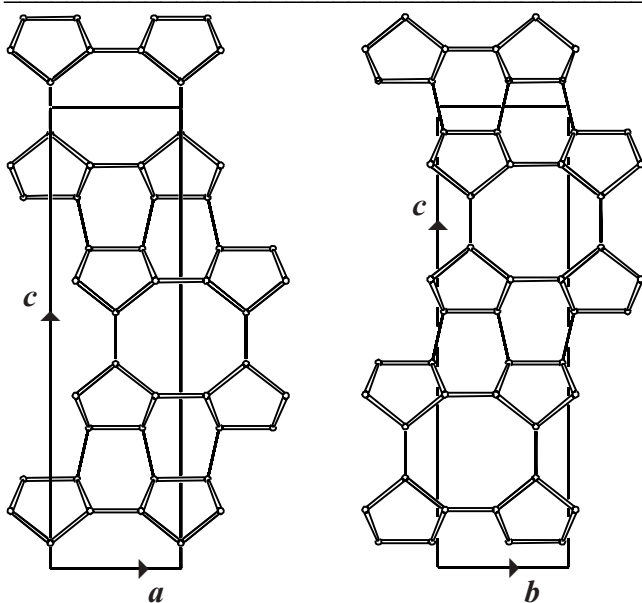


Figure 3. Parallel projection of the unit cell content viewed along b (left) and along a (right). ▲

4. Channels and/or cages:

In tetragonal **RWR**, non-interconnecting 8-ring channels are parallel to **a** and **b**. Channel and fusion of channels is illustrated in Figure 4. The **pore descriptor** is added.

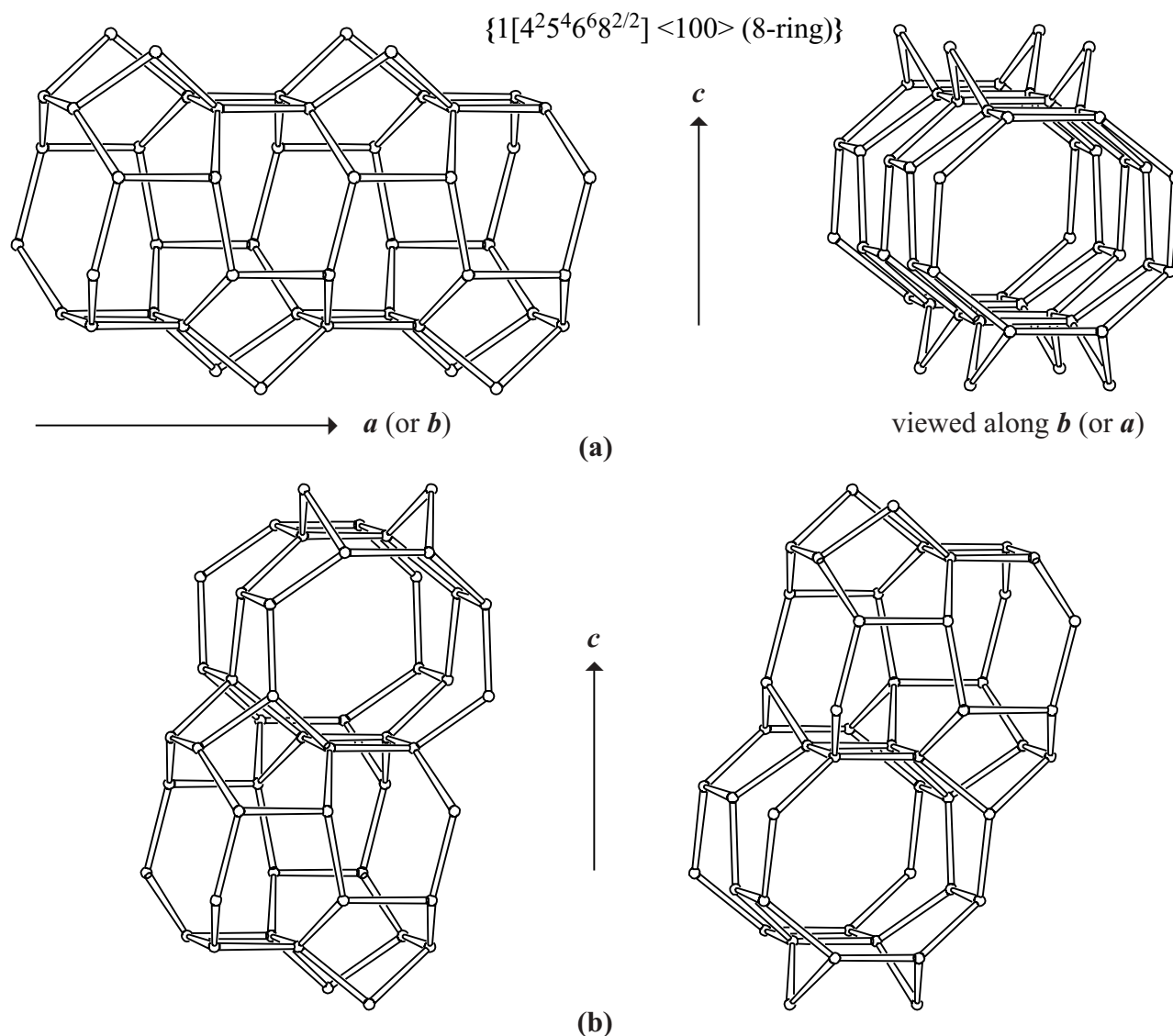


Figure 4. (a): Channel with 8-ring windows running parallel to **a** (**b**) seen along **b** (**a**) (left) and along **a** (**b**) (right); (b): Fusion of channels seen along **a** (left) and along **b** (right), or vice versa. ▲

5. Supplementary information:

Other framework types containing saw chains

In several framework types at least one of the unit cell dimensions is about $n \cdot 7.5 \text{ \AA}$ (where $n = 1, 2, 3 \dots$ etc.). In many cases this indicates the presence of saw chains.

In the **INTRO** pages links are given to descriptions of other framework types containing (twisted) saw chains (choose: **Saw chains**). There is also a link provided to a summary of the Periodic Building Units used in the building schemes of these framework types (choose: **Appendix; Figure 2**). ▲