Building scheme for VET

1. Periodic Building Unit – 2. Connection mode – 3. Projections of the unit cell content
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1. Periodic Building Unit:

VET can be built using the zigzag (zz) chain (bold in Fig.1 (left)) parallel to ***c***. The repeat distance along the zz chain is about 5.2 Å. The repeat unit consists of 2 T atoms. The Periodic Building Unit (PerBU) consists of eight zz chains connected into a cylinder of 6-rings with a 12-ring window and an additional single T atom (drawn in Fig. 2). [Compare this PerBU with the one in **OSI**]. An alternative PerBU consists of 5-1 units and 5 units (bold in Fig.1 (right); see **Alternative description**).

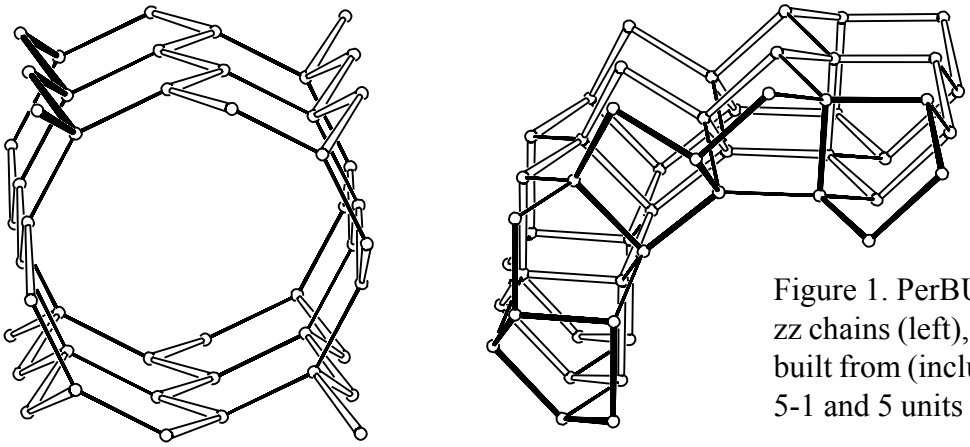

Figure 1. PerBU constructed from eight zz chains (left), and alternative PerBU built from (including the single T atom) 5-1 and 5 units (right) viewed along ***c***.

2. Connection mode:

Neighboring PerBUs, related along ***a***, and ***b*** by pure translations, are connected through 5-rings. The connection mode exhibits a 4-fold inversion axis through the central single T atoms (bold in Fig. 2).

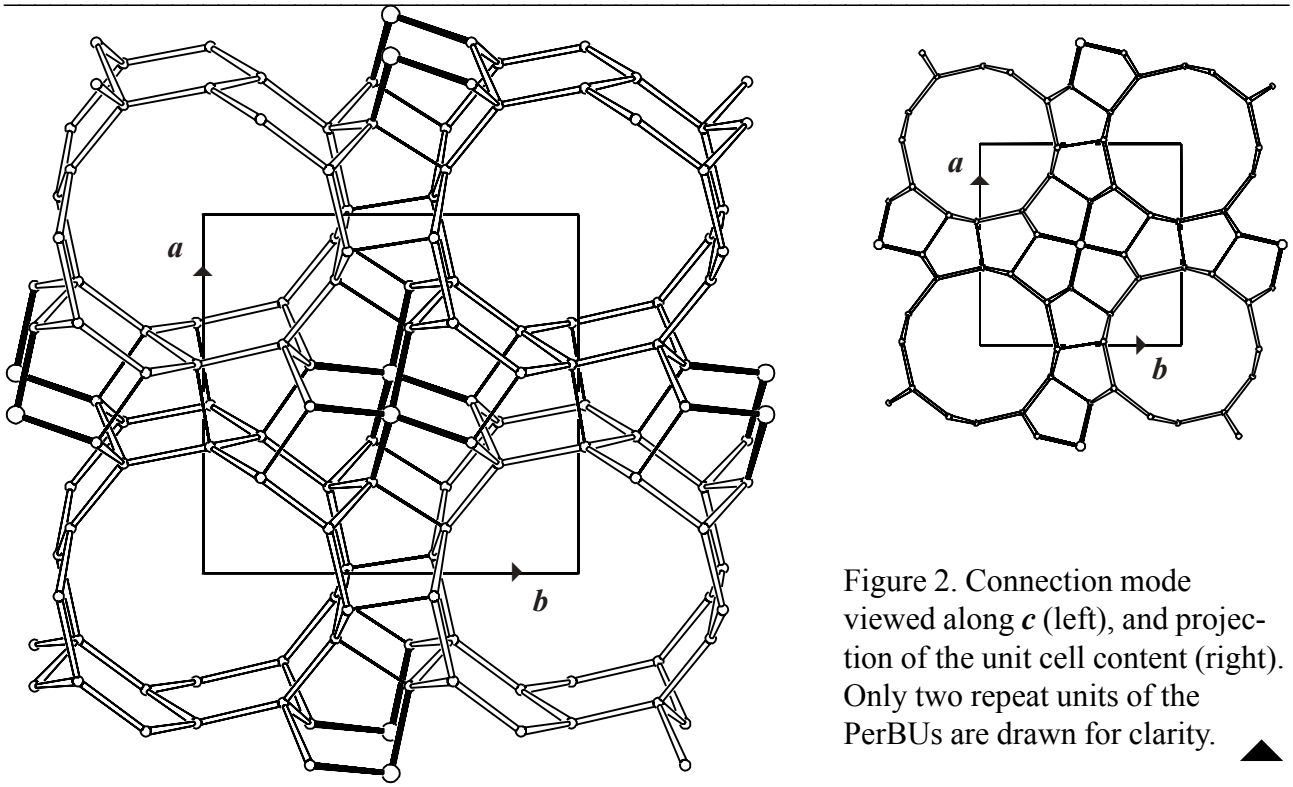

Figure 2. Connection mode viewed along ***c*** (left), and projection of the unit cell content (right). Only two repeat units of the PerBUs are drawn for clarity.

3. Projections of the unit cell content: See Figure 2.

4. Channels and/or cages:

The 12-ring channel in **VET**, parallel to ***c***, is equal to the PerBU. The channel wall consist of fused 6-rings as shown in Figure 3. The **pore descriptor** is added. The channel is topologically equivalent to the 12-ring channel in **OSI**.

{1 [$6^8 12^{2/2}$] [001] (12-ring)}

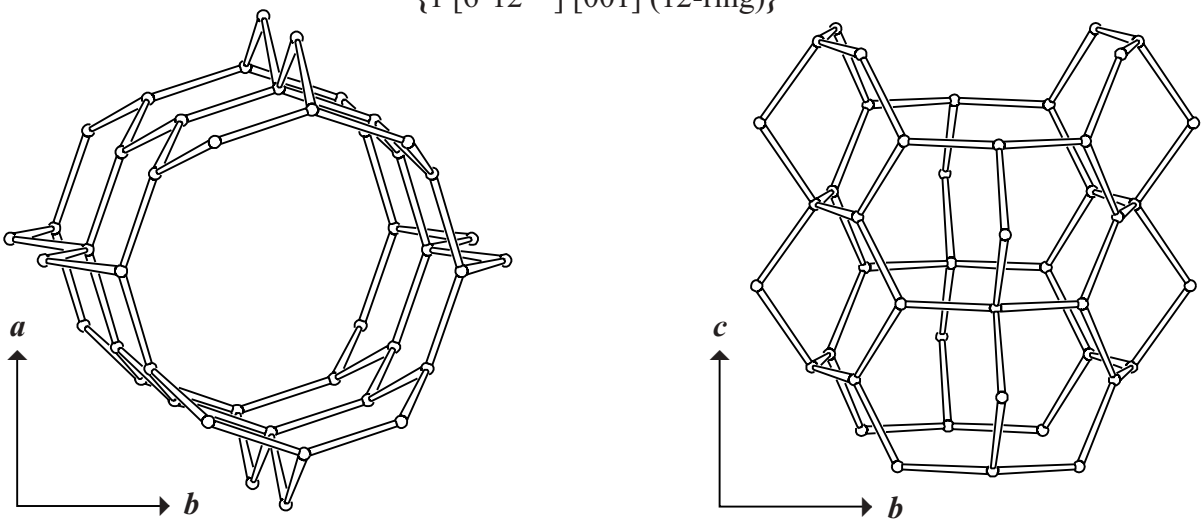

Figure 3. 12-Ring channel viewed along the channel axis parallel to ***c*** (left), and along ***a*** (right).

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5. Supplementary information:

Other framework types containing zigzag chains
In several framework types at least one of the unit cell dimensions is about n*5.2 Å (where n = 1, 2, 3, etc.). In many cases this indicates the presence of zigzag chains.
In the **INTRO** pages links are given to detailed descriptions of these framework types (choose: **Zigzag chains**). There is also a link to a summary of the Periodic Building Units used in the building schemes of these framework types (choose: **Appendix**; **Figure 1**).

Alternative description using (modified) 5-rings
Several framework types, like **VET**, can be constructed using (modified) 5-rings.
In the **INTRO** pages links are given to detailed descriptions of these framework types (choose: **5-Rings**). 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 6**).