

Building scheme for JBW



1. Periodic Building Unit – 2. Connection mode – 3. Projections of the unit cell content
4. Channels and/or cages – 5. Supplementary information

1. Periodic Building Unit:

JBW can be built using the zigzag chain (bold in Figure 1 (left)) running parallel to a (or using the saw chain running parallel to b (see Figure 2)). The repeat distance along the zigzag chain is about 5.2 Å. The repeat unit consists of 2 T atoms. The two-dimensional Periodic Building Unit (PerBU) is obtained when zigzag chains are connected along c into a layer of (fused) 6-ring chairs capped with additional zigzag chains as shown in Figure 1 (left). [Compare this PerBU with the PerBU in **ABW**]. An alternative (one-dimensional) PerBU is obtained when 6-ring chairs are 2-fold connected along a into a cylinder as depicted in Figure 1 (right). The cylinder wall consists of (fused) 8-rings.

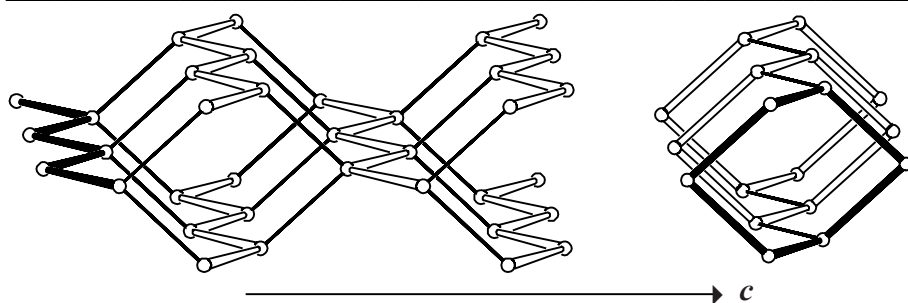


Figure 1. View along a of the PerBU constructed from three independent zigzag chains (left), and of the alternative PerBU constructed from 6-rings (right). ▲

2. Connection mode:

Neighboring PerBUs, related by a pure translation along b (and c), are connected through double (and single) zigzag chains. [Compare with the connection modes in **BIK** and **CAS**]

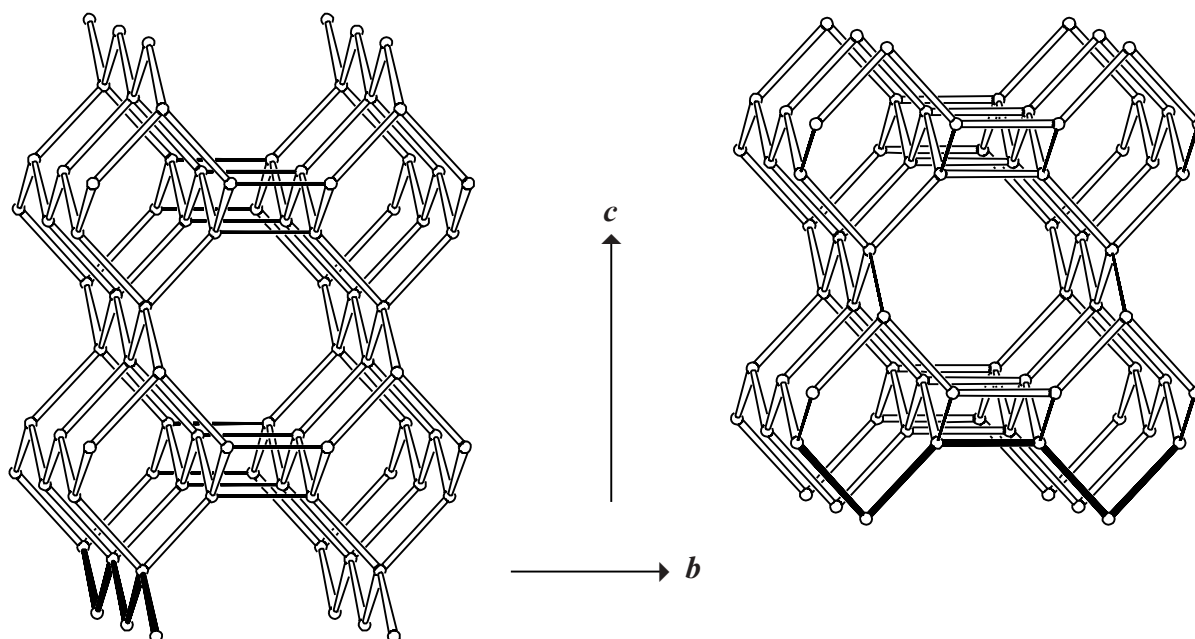


Figure 2. Connection mode in **JBW** viewed along a . One zigzag chain (left) and one saw chain (repeat distance 7.5 Å; right) are indicated in bold (see **Supplementary information**). ▲

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

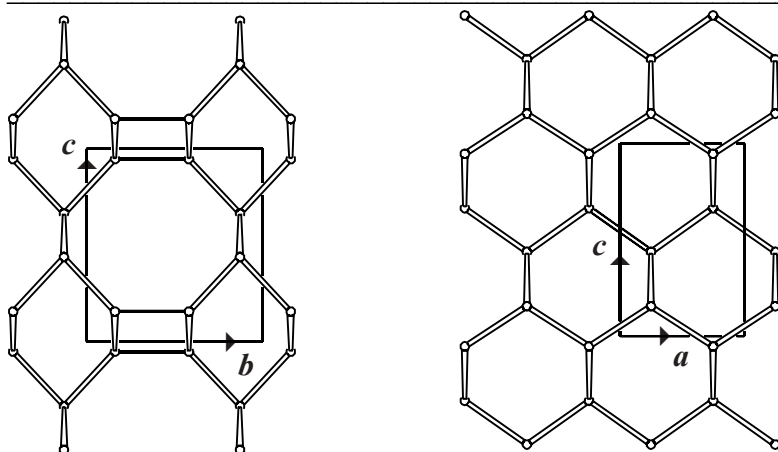


Figure 3. Parallel projection of the unit cell content along *a* (left) and along *b* (right)

4. Channels and/or cages:

The channel with an 8-ring window, parallel to *a*, is depicted in Figure 4. The **pore descriptor** is added. The channel is topologically equivalent to the channel in **ABW**.

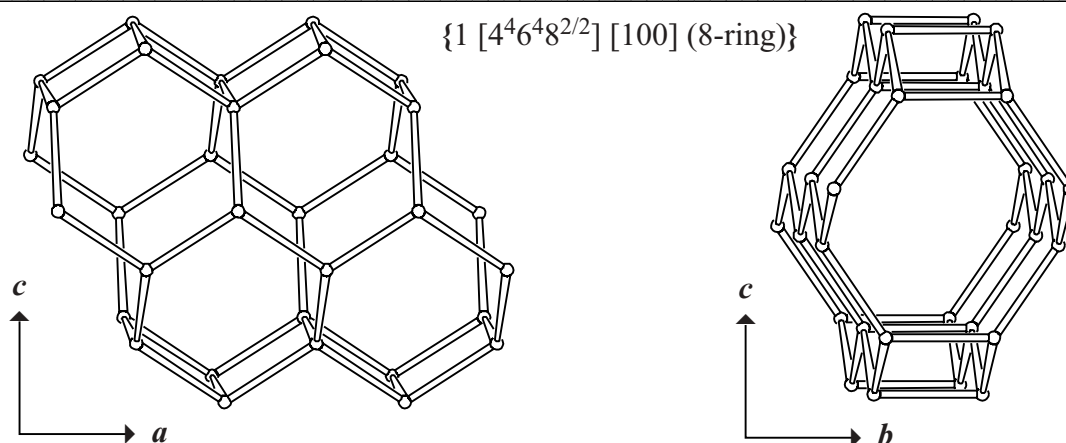


Figure 4. Channel (with side-pockets) in **JBW** viewed along *b* (left) and along *a* (right).

5. Supplementary information:

Other framework types containing zigzag chains

In several framework types at least one of the unit cell dimensions is about $n \cdot 5.2 \text{ \AA}$ (where $n = 1, 2, 3, \dots$). 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**).

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 $n = 1, 2, 3, \dots$. 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**).