

Building scheme for OWE



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

1. Periodic Building Unit:

OWE can be built using double 4-rings (D4Rs) with one disconnected edge (a 4-4- unit; bold in Figure 1). D4Rs, related by a rotation of 180° about a and a shift of $\frac{1}{2}(a + b)$, are connected into chains parallel to a . Neighboring chains, related by a pure translation along c are linked into the ac layer. This two-dimensional Periodic Building Unit (PerBU) is depicted in Figure 1. [Compare this PerBU with the PerBUs in [AFR](#), [SFO](#) and [ZON](#)]

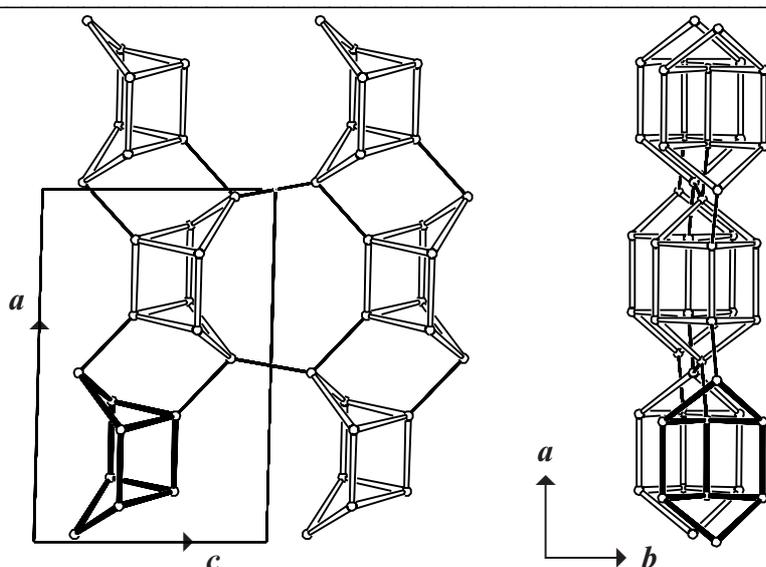


Figure 1. PerBU in OWE viewed along b (left), and along c (right). 

2. Connection mode:

Neighboring PerBUs, related by a pure translation along b , are connected along b through 4-rings. Double saw chains and intersecting 8-ring channels parallel to a , and b are formed.

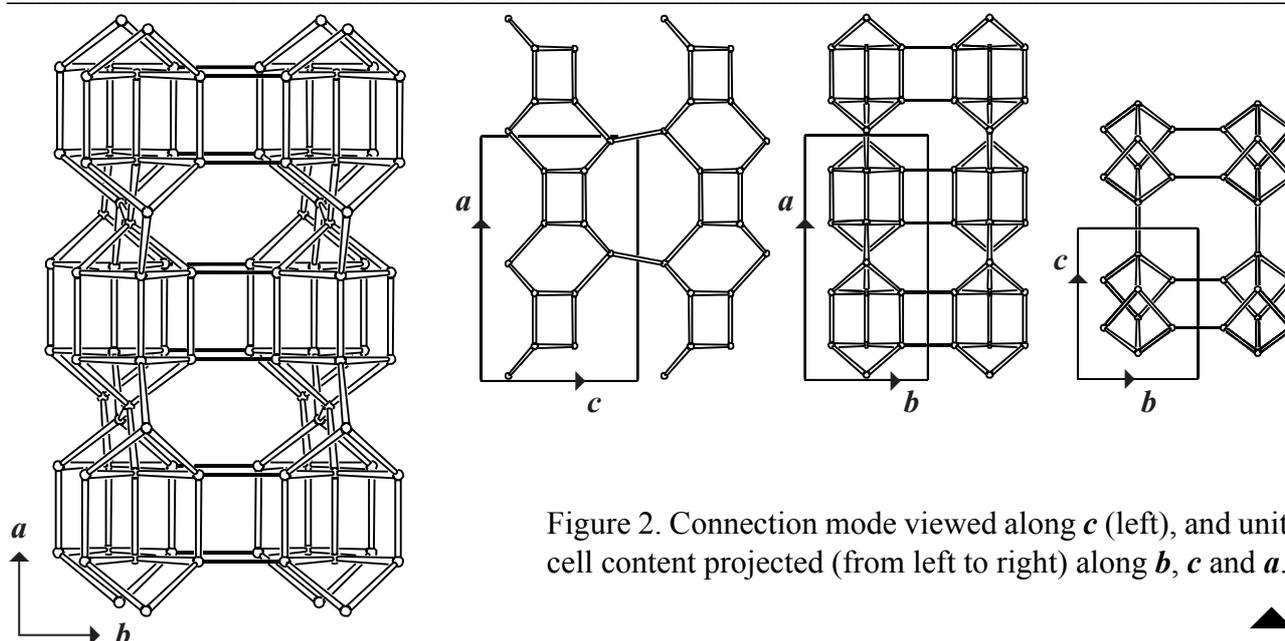


Figure 2. Connection mode viewed along c (left), and unit cell content projected (from left to right) along b , c and a . 

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

4. Channels and/or cages:

The channel intersection is shown in Figure 3(a) together with the **pore descriptor**. Channel intersections are connected into 8-ring channels along *a*, and *b* as illustrated in Figure 3(b) and 3(c).

$\{2 [4^4 6^5 8^6] [100] (8\text{-ring}), [010] (8\text{-ring})\}$

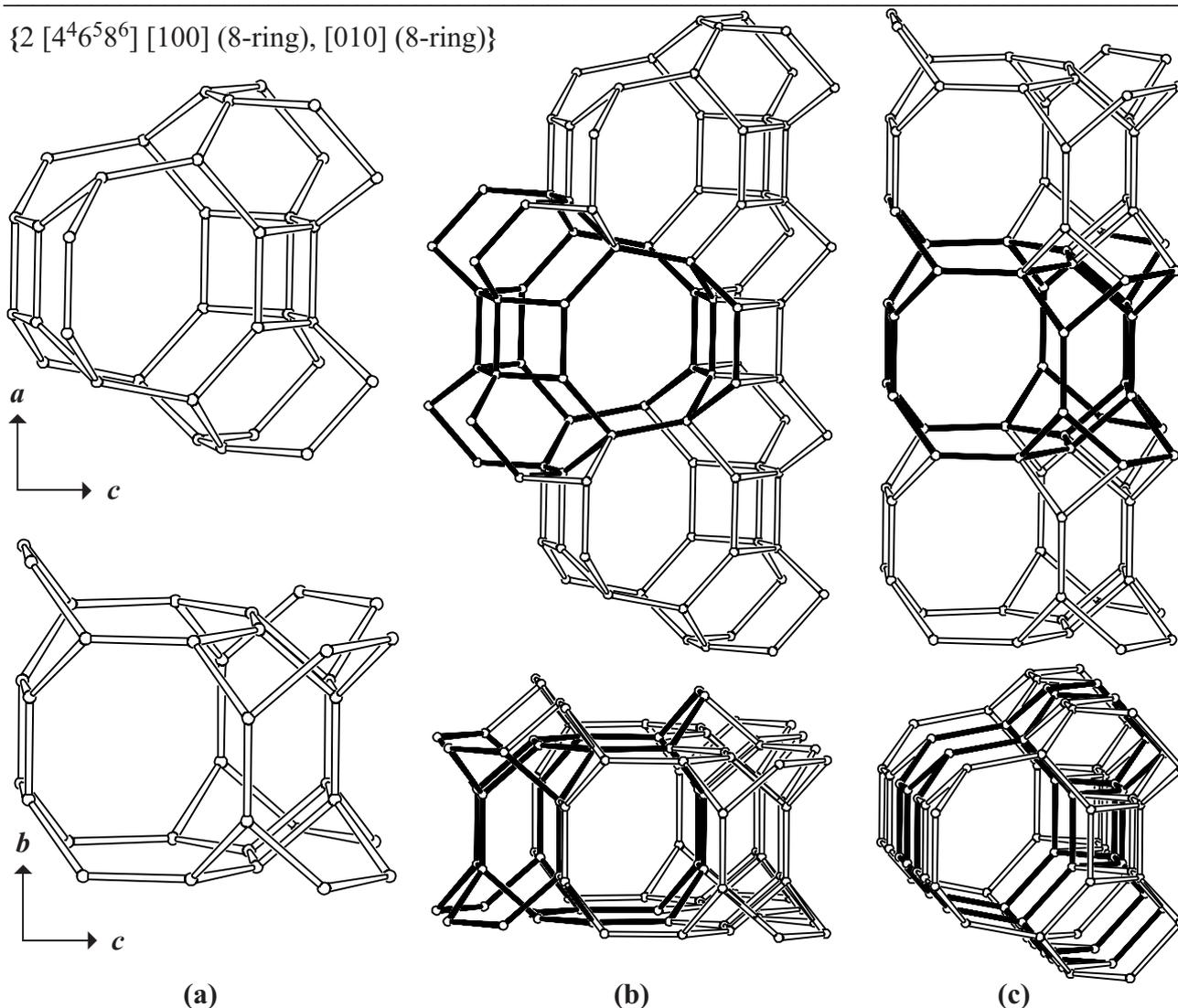


Figure 3. (a): Channel intersection in OWE viewed along *b* (top), and *a* (bottom); (b): Fusion of channel intersections along *a* viewed along *b* (top), and along the 8-ring channel axis parallel to *a* (bottom); (c): Fusion of channel intersections along *b* viewed along *a* (top), and along the 8-ring channel axis parallel to *b* (bottom).

5. Supplementary information:

Other framework types containing (modified) double 4-rings (D4Rs)

Double 4-rings (D4Rs) can be connected in several other ways. In some cases the 4-rings of the D4Rs are not 4-fold connected and/or additional T atoms are needed to build the framework.

In the **INTRO** pages links are given to a detailed description of a sub-set of framework types that contain (modified) D4Rs (choose: **Double 4-rings**). There is also a link provided to a summary of the PerBUs used in the building schemes of these framework types (choose: **Appendix; Figure 5**).