

# Building scheme for RHO



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

Cubic **RHO** can be built using the  $\alpha$ -cavity, composed of 48T atoms (twelve 4-rings, eight 6-rings or six 8-rings) and shown in Figure 1, as zero-dimensional Periodic Building Unit (PerBU). [Compare this PerBU with the intersection of channels in **LTA**, **KFI** and **PAU**]

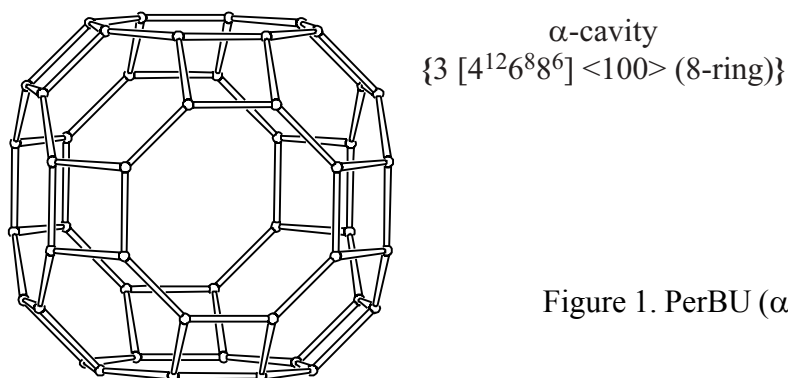


Figure 1. PerBU ( $\alpha$ -cavity) viewed along a cube axis.



## 2. Connection mode:

The three-dimensional **RHO** framework is obtained when PerBUs, related by pure translations along the cube axes, are connected through double 8-rings. Another  $\alpha$ -cavity is formed at the center of the cube. The connection mode in a cubic face is illustrated in Figure 2. An alternative PerBU of **RHO** is the double 8-ring.

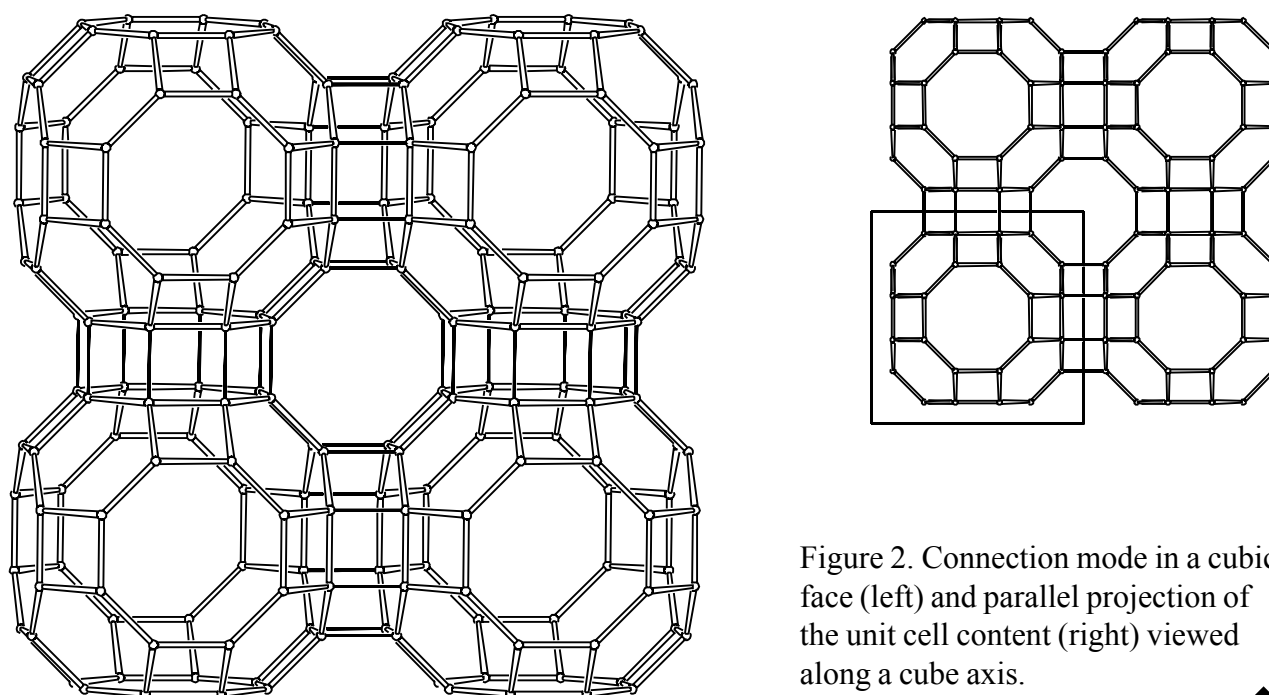


Figure 2. Connection mode in a cubic face (left) and parallel projection of the unit cell content (right) viewed along a cube axis.



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



#### 4. Channels and/or cages:

In cubic **RHO** 8-ring channels are parallel to  $\langle 100 \rangle$ . The channel intersections are equal to the  $\alpha$ -cavity (the PerBU) depicted in Figure 1. The **pore descriptor** is added in Figure 1. The fusion of the cavities through common 4- and 6-rings and double 8-rings is illustrated in Figure 3.

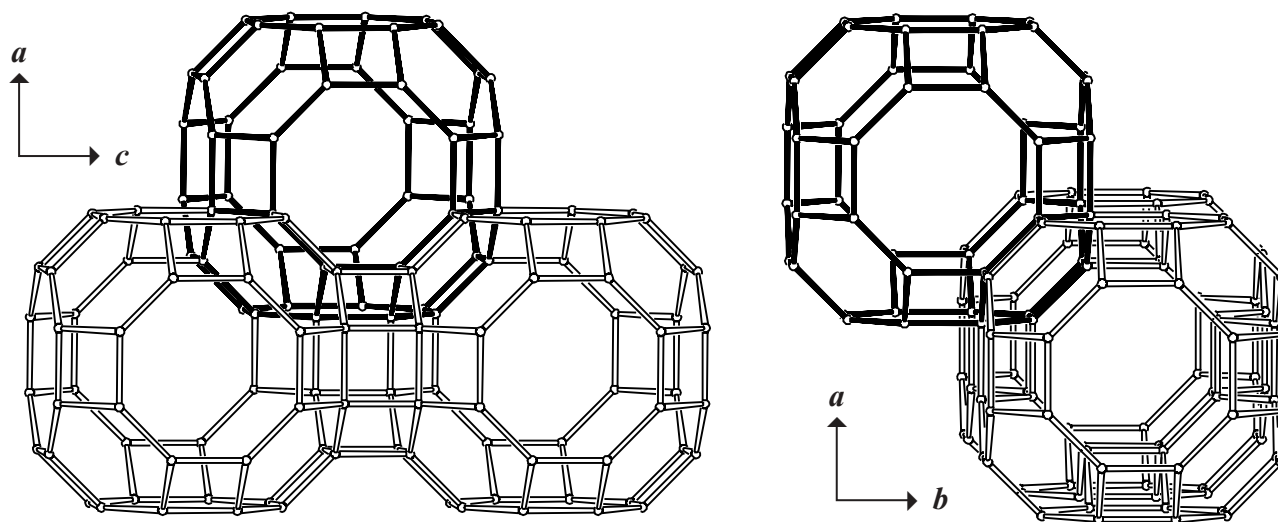


Figure 4. Fusion of  $\alpha$ -cavities viewed along *b* (left) and along *c* (right).



#### 5. Supplementary information:

##### *Other framework types containing (modified) cavities*

Several other framework types can be built using (modified) cavities. In the **INTRO**-pages links are given to a detailed description of a sub-set of framework types that contain (modified) cavities (choose: **Cages**). There is also a link provided to a summary of the PerBUs used in the building schemes of these framework types (choose: **Appendix; Figure 11**).

