

Building scheme for RTE



- 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:

RTE can be built using 2-fold (1,4)-connected double 6-rings (D6Rs). The one-dimensional Periodic Building Unit (PerBU) is the chain obtained when D6Rs (one bold in Figure 1), related by pure translations along c , are connected along c through 4-rings. Alternatively, the chain can be built using 5-1 units as is also illustrated in Figure 1 (see also [Alternative description](#)). In the building scheme presented here we will use D6Rs.

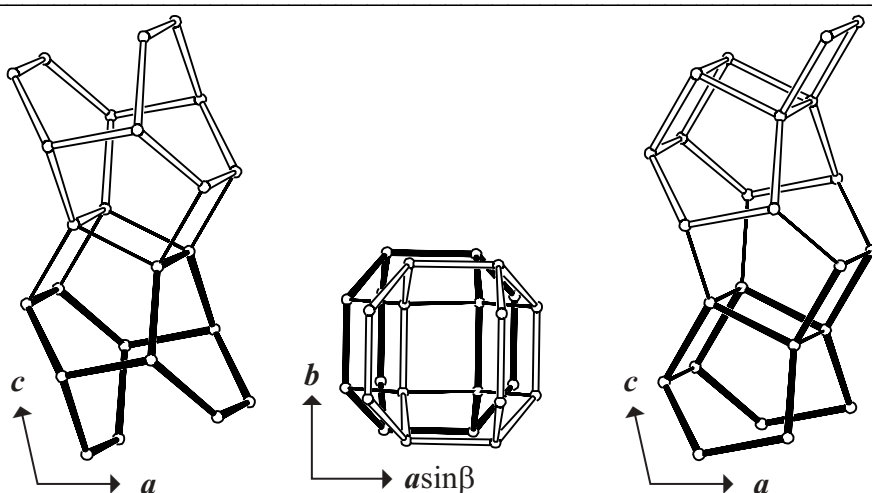


Figure 1. PerBU built from D6Rs viewed along b (left) and down c (middle) and PerBU built from 5-1 units viewed along b (right).



2. Connection mode:

Neighboring PerBUs, related by shifts of $\frac{1}{2}(a + b)$, are connected through 4-rings into the three-dimensional framework of RTE depicted in Figure 2.

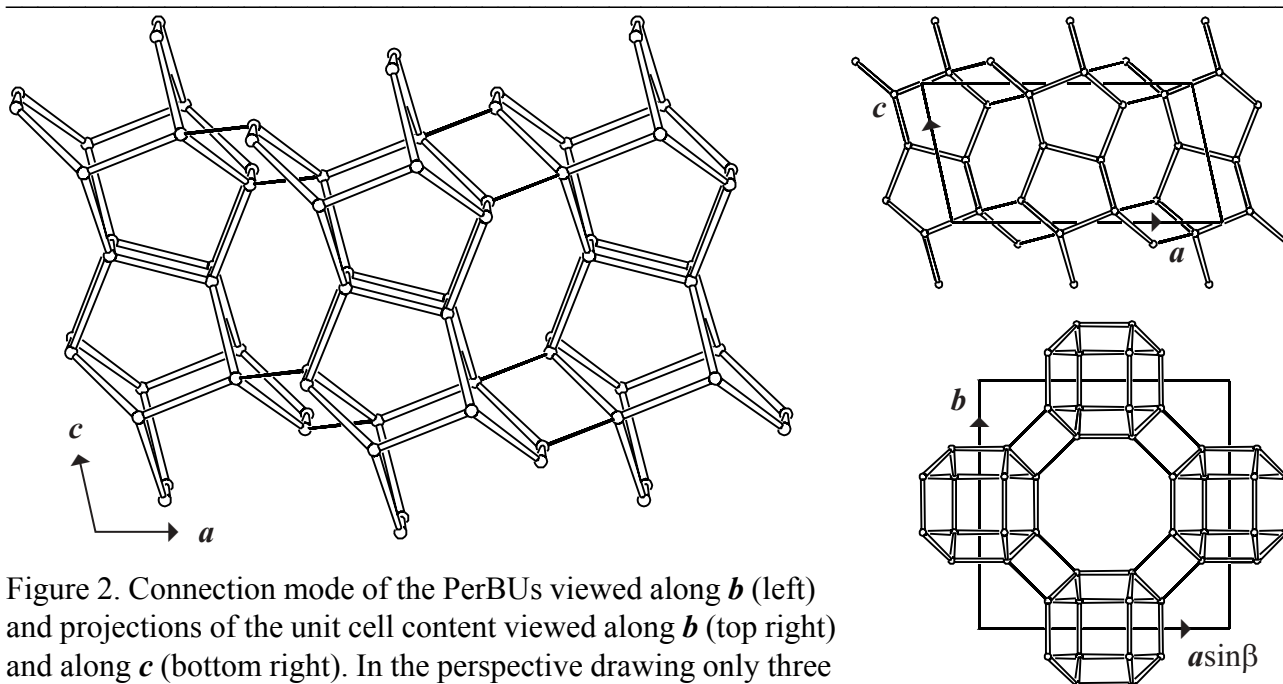


Figure 2. Connection mode of the PerBUs viewed along b (left) and projections of the unit cell content viewed along b (top right) and along c (bottom right). In the perspective drawing only three PerBUs are drawn for clarity.



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



4. Channels and/or cages:

The cavity in RTE is shown in Figure 3. The **pore descriptor** is added. 8-Ring channels parallel to [001] are formed when cavities are fused along c . The linkage of cavities in the ab plane (through the PerBU) is illustrated in Figure 4.

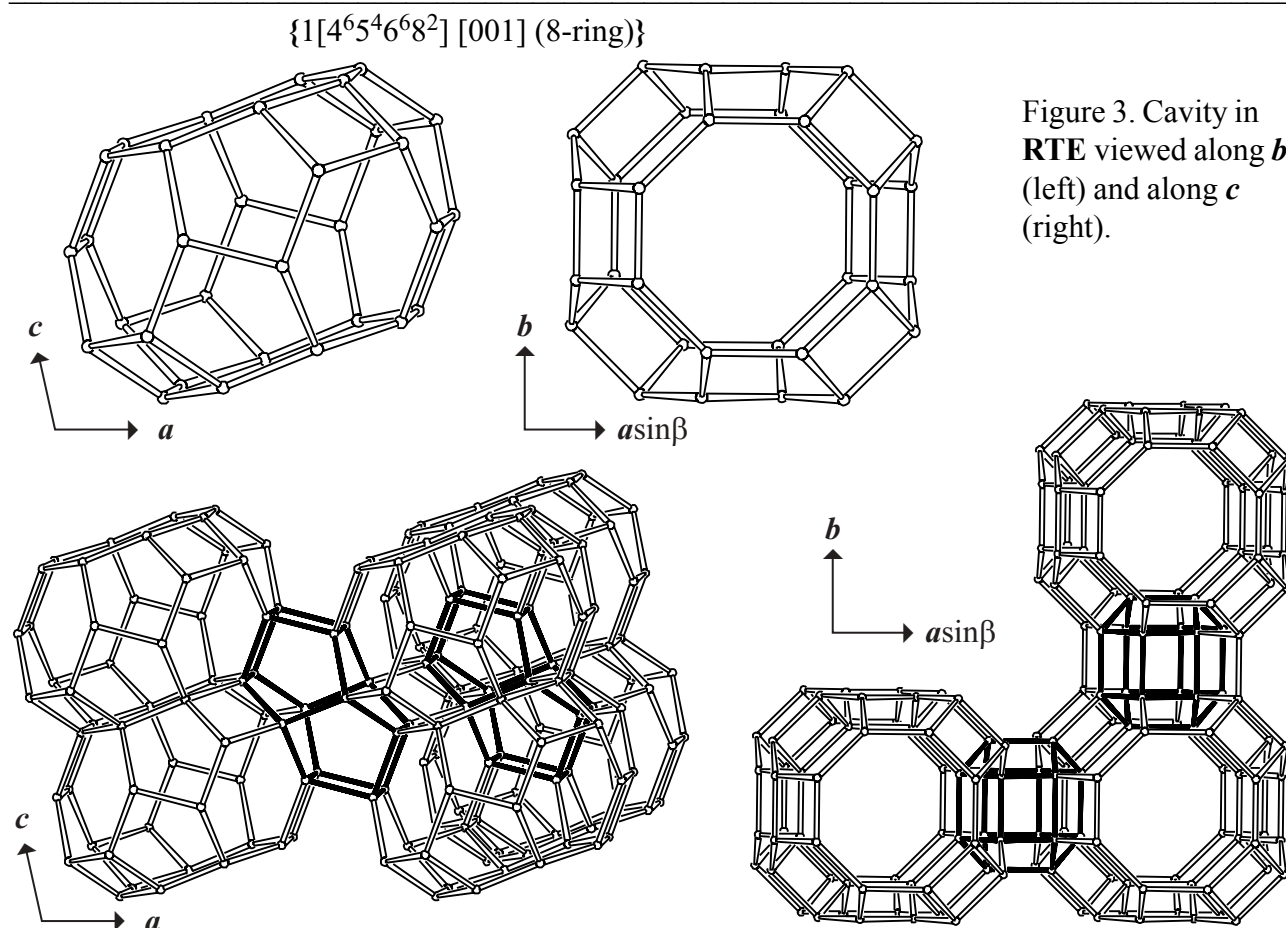


Figure 3. Cavity in RTE viewed along b (left) and along c (right).

Figure 4. Fusion of cavities along c and linkage along a , and b (through the PerBU) viewed along b (left) and along c (right). Only three columns of cavities along c are drawn for clarity.



5. Supplementary information:

Other framework types containing (modified) double 6-rings (D6Rs)

Several other framework types can be built using (modified) D6Rs.

In the **INTRO** pages links are given to descriptions of other framework types containing (modified) D6Rs (choose: **Double 6-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 7**).

Alternative description of RTE using (modified) 5-rings

5-Rings can be connected in several other ways. In all cases 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) 5-rings (choose: **5-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 6**).