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1. Periodic Building Unit:

MTF can be built using units of 11 T atoms (one in bold in Figure 1). The T11-unit consists of two 2-fold (1,3)-connected 5-rings and a T atom that makes an additional connection between the 5-rings (the 5-5=1 unit). T11-units, related by pure translations along c , are connected into chains along c . Two chains, related by a mirror plane perpendicular to b (or by a rotation of about 90° about the chain axis), are connected through 4-rings into a “double-chain” unit. Double-chain units, related by a shift of $\frac{1}{2}a$ are connected along b , through 6-ring-chairs into the bc layer. The Periodic Building Unit (PerBU) equals this bc layer shown in Figure 1.

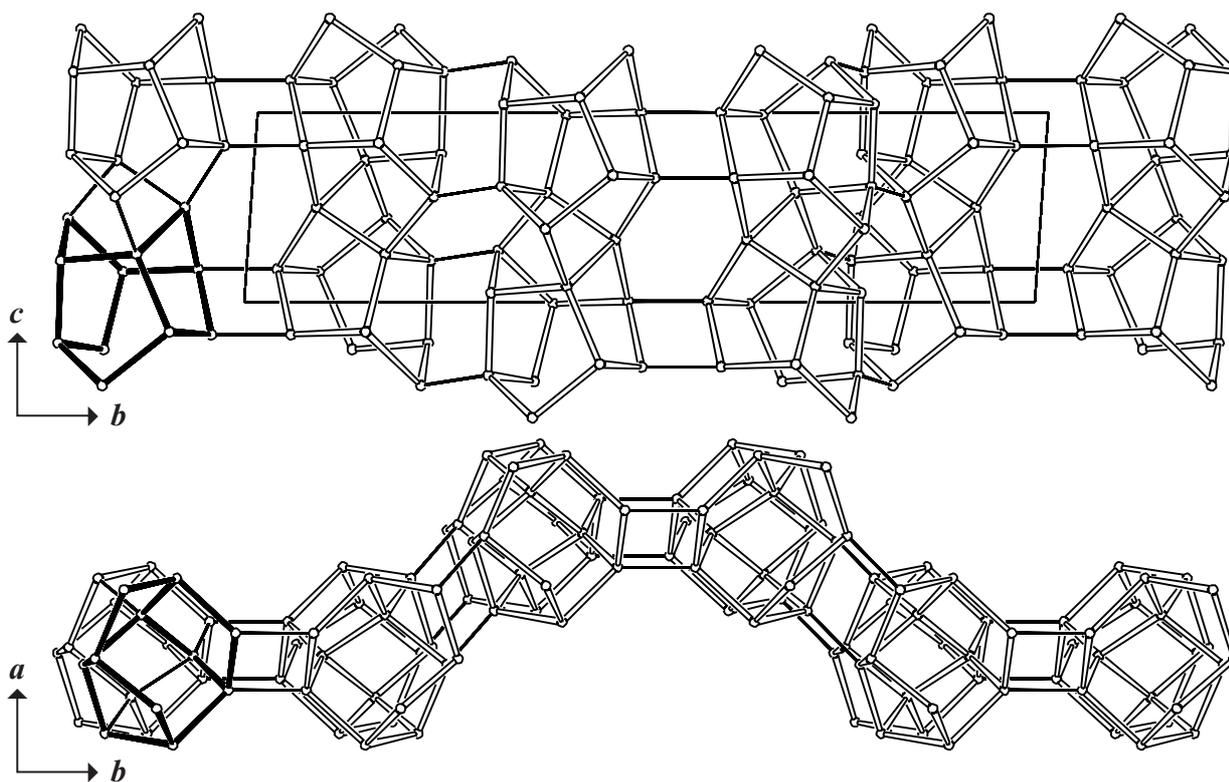


Figure 1. PerBU viewed around an axis about 15° inclined with respect to a , and b (top) and along c (bottom). ▲

2. Connection mode:

Neighboring PerBUs, related by pure translations along a , are connected along a through 6-rings and 8-rings as illustrated in Figure 2 on next page.

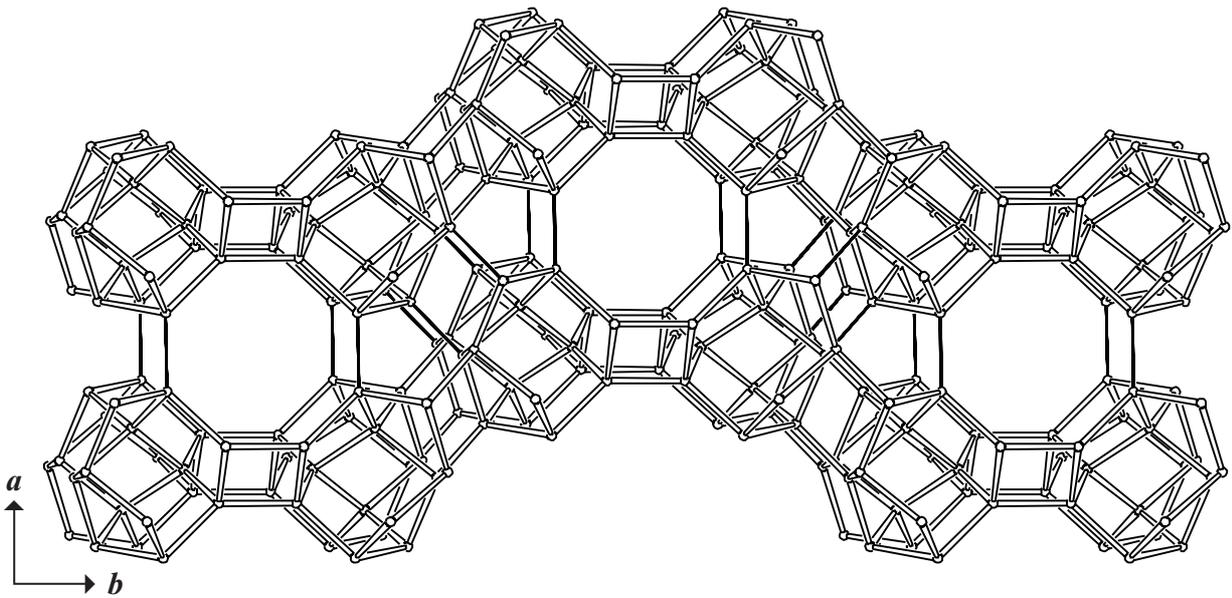


Figure 2. Connection mode viewed along c . ▲

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

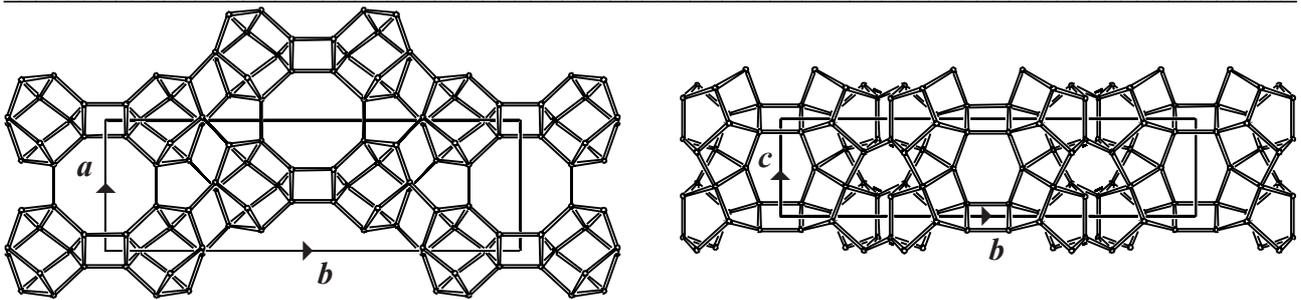


Figure 3. Unit cell content projected along c (left), and along a (right). ▲

4. Channels and/or cages:

The cavity in **MTF** is shown in Figure 4. The **pore descriptor** is added. The connection of the cavities is illustrated in Figure 5. Non-interconnecting 8-ring channels parallel to c are formed.

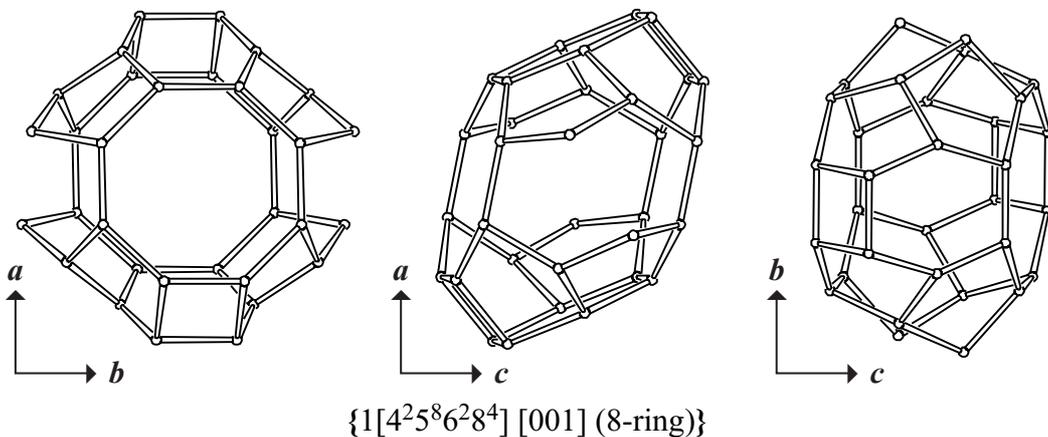


Figure 4. Cavity viewed along c (left), along b (middle), and along a (right).

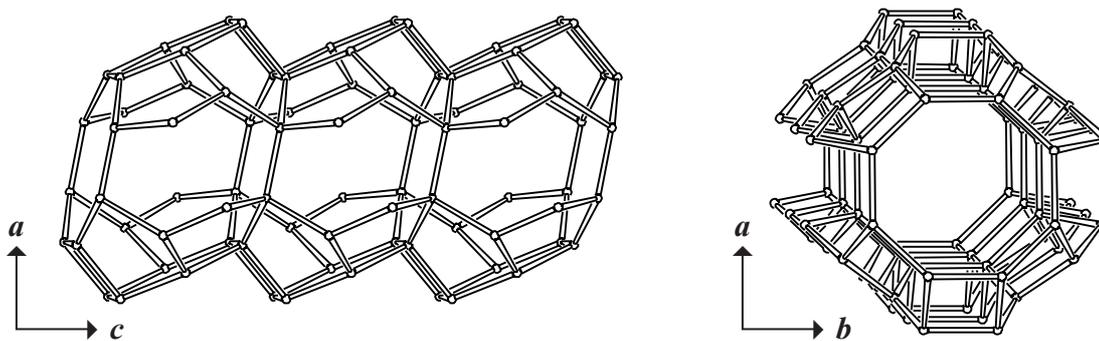


Figure 5. Fusion of cavities along c into 8-ring channels parallel to c viewed along b (left), and along the channel axis parallel to c (right). ▲

5. Supplementary information:

Other framework types containing (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**). ▲