1. Periodic Building Unit

Orthorhombic UOS can be built using units of 12 T atoms consisting of 4-fold (1,2,4,5)-connected double 6-rings (one T12-unit in bold in Figure 1). T12-units, related along \( a \) and \( b \) by 2-fold screw axes parallel to \( a \) and \( b \), respectively, are connected through D4Rs and 8-rings into the two-dimensional PerBU shown in Figure 1.

---

Fig. 1. PerBU constructed from T12-units viewed along \( c \) (top) and along \( a \) (bottom). The PerBUs at the bottom are related by a rotation of 180° about \( c \).
2. Connection mode

Neighboring PerBUs, related by a rotation of 180° about \( c \), are connected along \( c \) through 5-rings as shown in Figure 2.

Fig. 2. Connection mode and cell content viewed along \( a \) (top) and projected along \( c \) (bottom left) and along \( b \) (bottom right).
3. Channels and/or cages

Two types of 8-ring channels are parallel to $c$ and another type of 8-ring channels is parallel to $b$. 10-Ring channels are parallel to $a$. The channels are shown in Figure 3. The pore descriptor is added.

Fig. 3a. 10-Ring channel viewed along $c$ (left) and along $a$ (right).

Fig. 3b. 10-Ring channels, related by a 2-fold screw axis along $b$, are connected along $b$ through common 8-rings into 8-ring channels parallel to $b$ (see also Figure 2, bottom right). 10-Ring channels, related by a 2-fold screw axis along $c$, are connected along $c$ through D4Rs and 5-rings. The inset illustrates (part of) the two types of 8-ring channels parallel to $c$. 
4. Composite Building Units

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).

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).