1. Periodic Building Unit:

**TUN** can be built using left- and right-handed units of 24 T atoms (one bold in Figure 1). The T24-unit consists of four 5-1 units, or four “finite” zigzag chains (each containing 4 T atoms) and four dimers. Left- and right-handed T24-units form left- and right-handed columns parallel to c, respectively. The T24-units in the column are related by a rotation of 180° about b. Left- and right-handed columns are connected into the two dimensional PerBU. The PerBU equals the bc layer shown in Figure 1 on next page.

Figure 1(a). Left- and right-handed T24-units (top) and the polar columns obtained (bottom). Columns viewed along b (left and middle), and one column viewed along a (right). One T24-unit in bold. [Figure 1 is continued on next page]
Figure 1(b). Left- and right-handed columns are connected along \( b \) through 4- and 6-rings into the PerBU viewed along \( a \) (left) and along \( b \) (right).

2. Connection mode:

Neighboring PerBUs, related along \( a \) by a shift of \( 1/2(a + b) \), are connected along \( a \) through 5-rings as depicted in Figure 2 on next page.
Figure 2. Connection mode (and unit cell content) viewed along $b$.

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

Figure 3. Unit cell content projected along [10-1] (left) and along $a$ (right).
4. Channels and/or cages:

Two types of 10-ring channels are parallel to $b$. The channels are interconnecting along [-101]. Pairs of channels of type 1 are interconnecting along $a$. Non-interconnecting sinusoidal 10-ring channels are perpendicular to $b$. The two types of channels and their interconnection are depicted in Figure 4. The pore descriptors are added. The interconnection between pairs of channels of type 1 along $a$ can be seen in Figure 2.

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Type 1: \{1 \{5^{16}6^{4}10^{2/2}\} [010] (10-ring)\}

Type 2: \{1 \{4^{85}16^{12}8^{2}12^{2}10^{2/2}\} [010] (10-ring)\}

Figure 4. 10-Ring channel of type 1 (top) and of type 2 (bottom) viewed perpendicular to the channel axis (left) and along the channel axis (right). [Figure 4 is continued on next page]
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**). 

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Figure 4 [Cont’d]. Interconnection of channels (type 2 channel in bold).