1. Periodic Building Unit:

SGT can be built using units of 32 T atoms. Four 5-3 units (one unit in bold in Figure 1) are connected through (fused) 4-rings and 5-rings into T32-units as shown in Figure 1). The one-dimensional Periodic Building Unit (PerBU) is obtained when T32-units, related by a pure translation of $\frac{1}{2}(a + b + c)$, are connected along [-111] through 4- and 5-rings as shown in Figure 2.

Figure 1. T32 unit, composed of four 5-3 units (one in bold), seen along $a$ (left), and along $b$ (right).

Figure 2. PerBU (one T32-unit in bold) viewed along $a$ (top), and along $b$ (bottom).

2. Connection mode: See next page
2. Connection mode:

Neighboring PerBUs, related by pure translations along \( b \), are connected into the (101) plane through 4-, 5- and 6-rings as shown in Figure 3(top). Small \([4^35^6] \)-cages are formed. Neighboring (101) planes, related by pure translations along \( a \), are connected into the three-dimensional structure through 4-, 5- and 6-rings as shown in Figure 3(bottom). Small \([4^35^6] \)-cages and large \([5^{12}6^8] \)-cages are formed. The connection modes along \( a \) and \( b \) are equal as can be seen from Figure 3.

Figure 3. Connection mode along \( b \) viewed along \( a \) (top), and connection mode along \( a \) viewed along \( b \) (bottom). One set of small \([4^35^6] \)-cages with a 4-ring in common, and one large \([5^{12}6^8] \)-cage (See Figure 5) are indicated by arrows. In both (101) layers in the bottom drawing, only a part of the second PerBU is shown for clarity.

3. Projections of the unit cell content: See Figure 4 on next page.
4. Channels and/or cages:

The two types of cages in SGT are shown in Figure 5. The pore descriptors are added. The fusion of the cages is also illustrated in Figure 5. Apertures are formed by 6-rings only.

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).