1. Periodic Building Unit:

ATS can be built using the zigzag chain (bold in Fig. 1 (left)) running parallel to \(c\). The repeat distance along the zigzag chain is about 5.2 Å. The repeat unit consists of 2 T atoms. The one-dimensional Periodic Building Unit (PerBU) is obtained when six zigzag chains are connected into two bands of fused 6-ring boats that are connected through a double zigzag chain. The repeat unit of the PerBU contains 12T atoms and is composed of two doubly connected 6-ring boats (bold in Fig. 1 (right)).

2. Connection mode:

Neighboring PerBUs, related by a shift of \(\frac{1}{2}(a + b)\), are connected through T4-rings. Double zigzag chains are formed.
3. Projections of the unit cell content:

![Parallel projection of the unit cell content in ATS along c (left), and along a (right).](image)

4. Channels and/or cages:

Cavities with side-pockets, consisting of 6- and 4-rings, are connected through common 12-rings to channels running parallel to c as depicted in Figure 4. The pore descriptor is added.

![Figure 4. Cavity in ATS in viewed along c (top left) and normal to c (bottom left). Fused cavities form non-interconnecting 12-ring channels parallel to c (right).](image)

5. Supplementary information:

*Other framework types containing zigzag chains*

In several framework types at least one of the unit cell dimensions is about n*5.2 Å (where n = 1, 2, 3, etc.). In many cases this indicates the presence of zigzag chains.

In the INTRO pages links are given to detailed descriptions of these framework types (choose: Zigzag chains). There is also a link to a summary of the Periodic Building Units used in the building schemes of these framework types (choose: Appendix; Figure 1).