1. Periodic Building Unit:

The framework types ATO and CAN can be built using the zigzag chain (bold in Figure 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 a cylindrical pore with a 12-ring window. The repeat unit of the PerBU is a 12-ring (bold in Fig.1 (right)). The cylinder wall consists of fused 6-rings. [See also: alternative description of CAN]

2. Connection mode:

Three neighboring PerBUs can be connected in two different ways: (1): neighboring PerBUs are connected through 4-rings around a 3-fold screw axis parallel to c; (2): three neighboring PerBUs are connected through double zigzag chains around a 3-fold rotation axis parallel to c .[Compare the connection modes with those in ATN and BCT]
3. Projections of the unit cell content:

Pure **ATO** and **CAN**, shown in Figure 3, are obtained when three neighboring PerBUs are exclusively related by 3-fold screw axes parallel to $c$ and by 3-fold rotation axes parallel to $c$, respectively.

Figure 3. Cell content in **ATO** (top) and in **CAN** (bottom) viewed along $c$ in perspective (left), and in projection (right). [Both structure types can as well be constructed using 4- or 6-rings as can be seen from the Figure]
4. Channels and/or cages:

Channels run parallel to $c$ and are equal to the PerBU. The channel wall consists of fused 6-rings as depicted in Figure 4. The pore descriptor is added in Figure 4.

![Figure 4. Channel in ATO and CAN viewed normal to the chain axis $c$ (left), and along $c$ (right).]

{1 [6^612^{2/2}] [001] (12-ring)}

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).

**Alternative description of CAN using a hexagonal array of non-connected 6-rings**
A large number of framework types, like CAN, can be constructed using a hexagonal array of non-connected 6-rings as PerBU. They all belong to the ABC-6 family. In these framework types the unit cell dimension along the hexagonal axis is $=(n^*)2.55$ Å where $n$ is equal to the number of PerBUs that are connected along the hexagonal axis. In the INTRO pages links are given to detailed descriptions of framework types belonging to the ABC-6 family (choose: ABC-6 family).