



1. Periodic Building Unit:

Tetragonal **EDI** and **NAT** and orthorhombic **THO** can be built using the fibrous chain (or natrolite-chain) as one-dimensional Periodic Building Unit (PerBU). The chain is composed of units of 5T atoms (bold in Figure 1). These T5-units, or 4=1 units, are related by pure translations along c . The PerBUs, shown in Figure 1, are identical and related by a rotation of 90° about the chain axis.

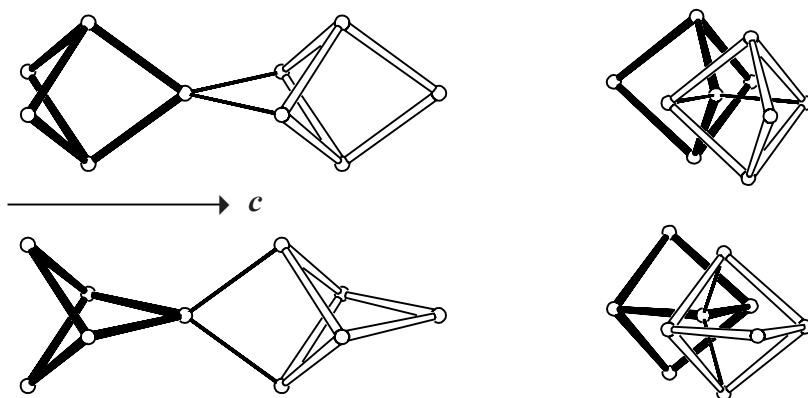


Figure 1. PerBUs, composed of T5-units, viewed perpendicular to the chain axis (left), and down the chain axis (right). The two PerBUs shown on top and bottom differ by a rotation of 90° about the chain axis.

2. Connection mode:

Neighboring PerBUs can be connected along a and b in different ways:

- (1): neighboring PerBUs are related by a pure translation along both a and b ;
- (2): neighboring PerBUs are related along a by a rotation of 90° about the chain axis and along b by a pure translation;
- (3): neighboring PerBUs are related along both a and b by a rotation of 90° about the chain axis.

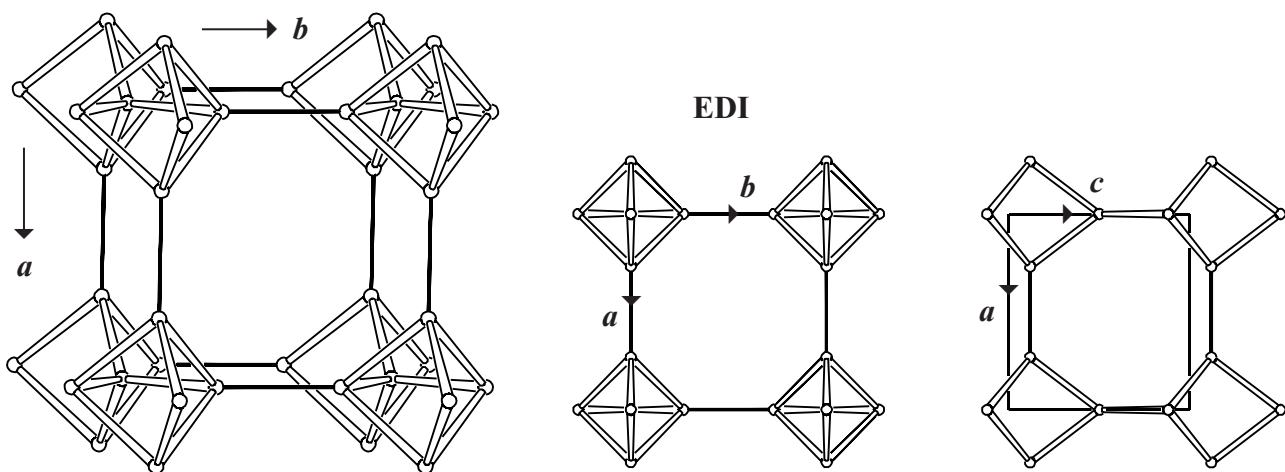


Figure 2. Connection mode (1) in **EDI** viewed along the fibrous chain axis c (left) and parallel projection of the unit cell content along c (middle), and along b (or along a ; right). [Figure 2 is continued on next page]

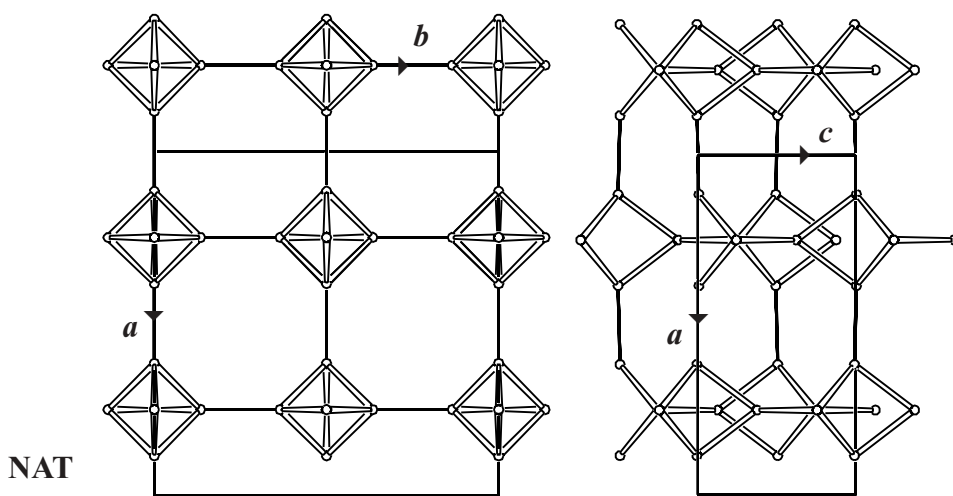
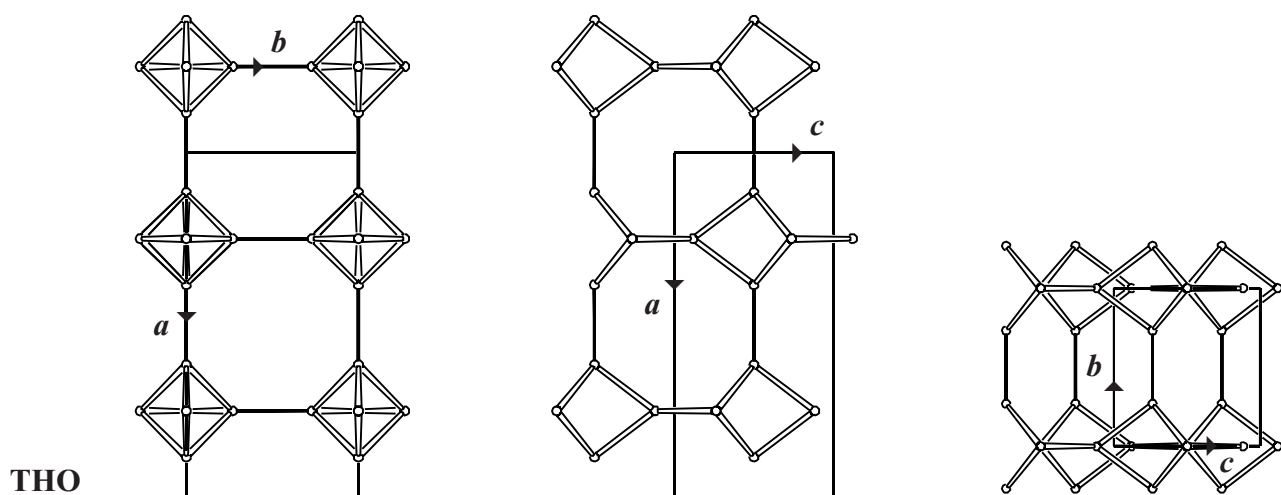
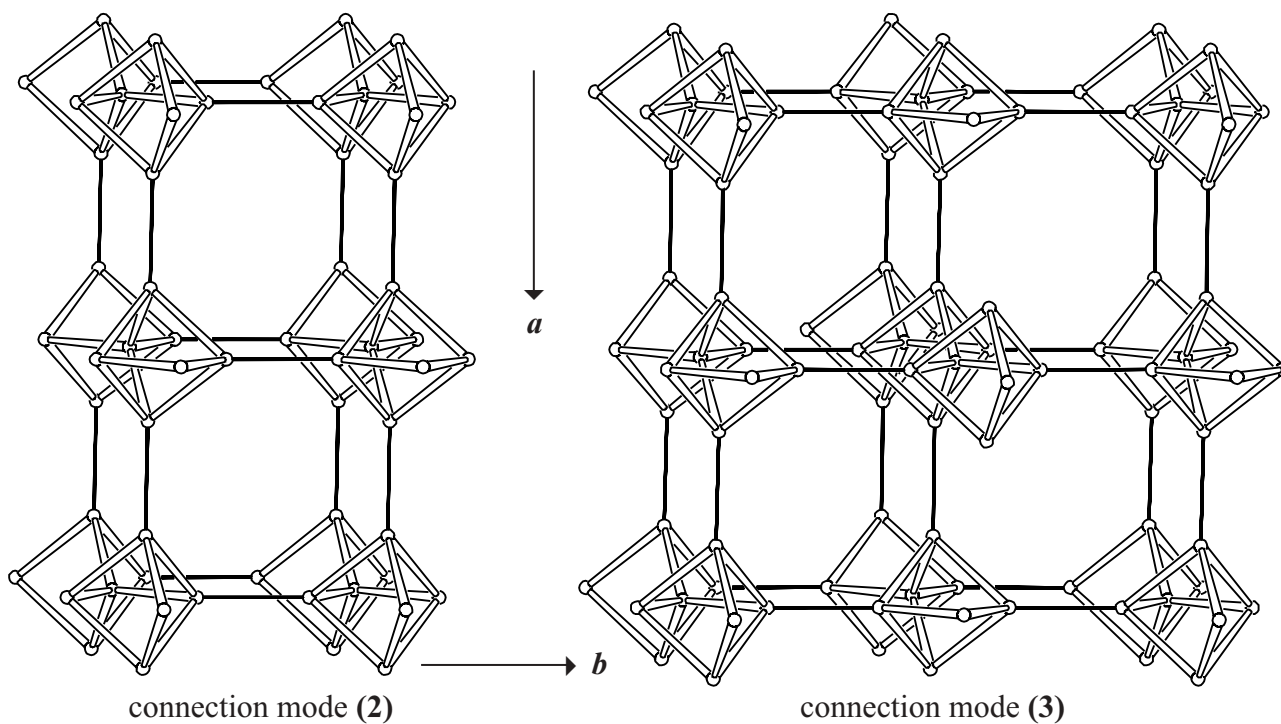


Figure 2 [Cont'd].
 Connection mode (2)
 in **THO** (top left) and
 connection mode (3)
 in **NAT** (top right)
 viewed along the
 fibrous chain axis c

and parallel projections of the unit cell content along (from left to right) c , b and a in **THO** (middle), and along c and b (or along a) in **NAT** (bottom).



3. Projections of the unit cell content: See Figure 2.



4. Channels and/or cages:

Channel intersections in **EDI** and **THO** consist of 8-rings and the channel intersection in **NAT** consists of 8- and 9-rings as shown in Figure 3. The **pore descriptors** are added. The intersections in **EDI** can be connected to (equal) straight channels parallel to **a** and **b** and to another straight channel parallel to **c**. The intersections in **NAT** form straight channels along **c** and (equal) sinusoidal channels parallel to **a** and **b**. The intersections in **THO** form straight channels parallel to **b** and **c** and a sinusoidal channel parallel to **a**. Figure 4 depicts the fusion of intersections to the straight channels along **c** and along **b** (or **a**) in **EDI**, to the straight channel along **c** and to the sinusoidal channels along **b** (or **a**) in **NAT** and to the straight channels along **c** and **b** and to the sinusoidal channel along **a** in **THO**.

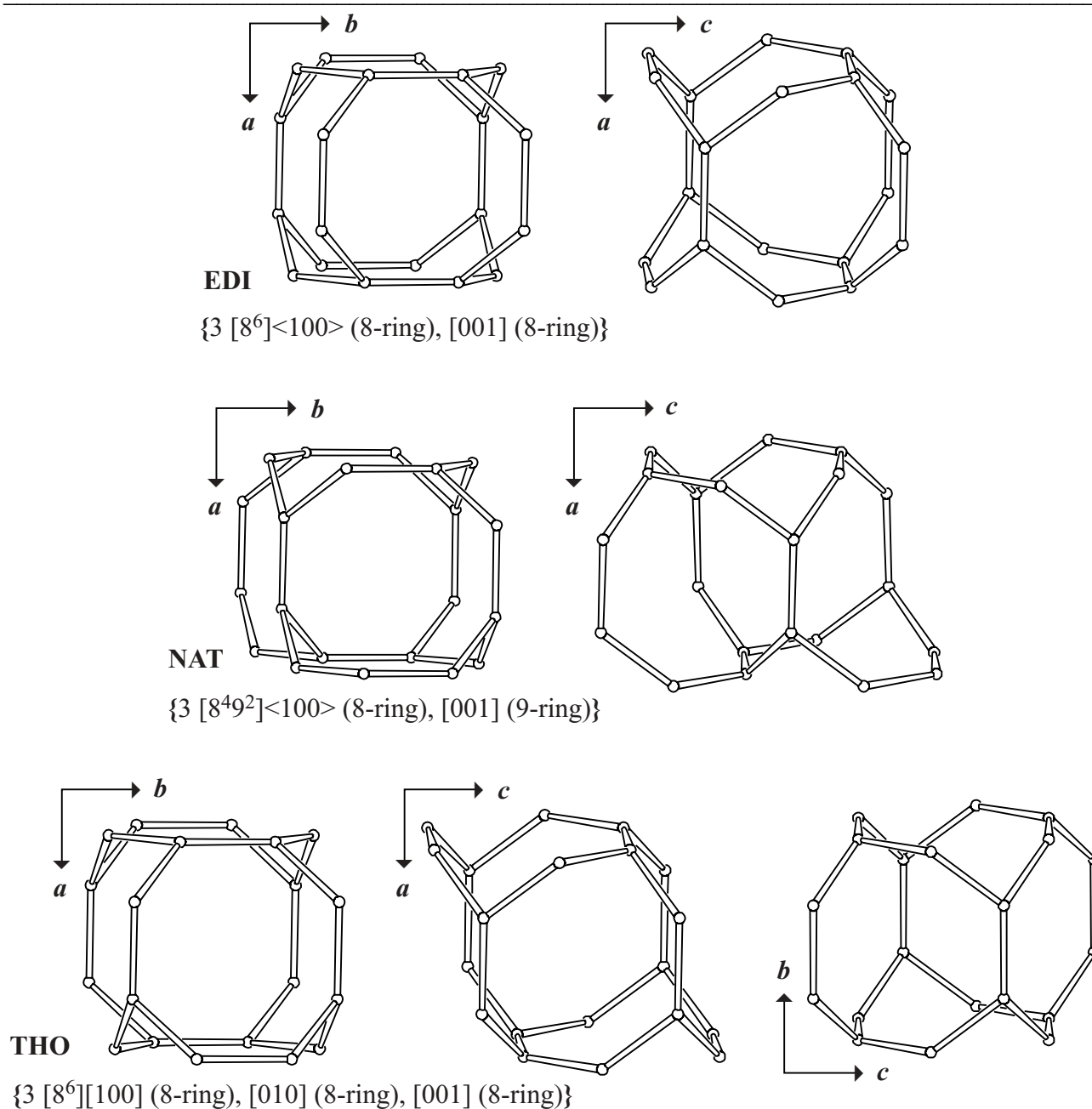


Figure 3. Channel intersection in **EDI** (top), **NAT** (middle), and **THO** (bottom) viewed (from left to right) along to the fibrous channel axis **c**, along **b** (or **a**), and (for **THO**) along **a**. [Figure 4 is on next page]

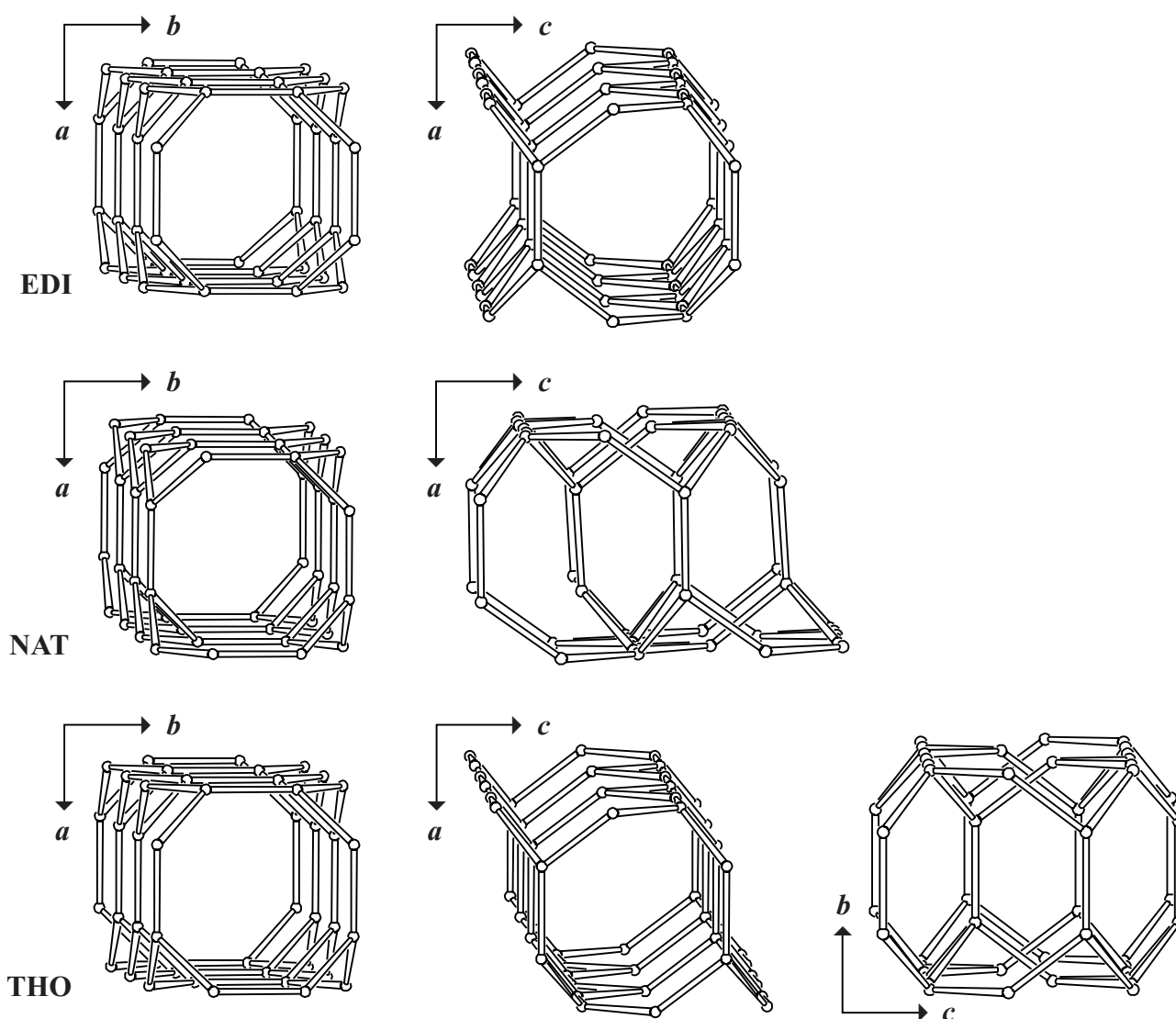


Figure 4. Fusion of intersections into straight channels along c and along b (or a) in **EDI** (top), into the straight channel along c , and into the sinusoidal channels along b (or a) in **NAT** (middle), and into straight channels along c and b , and into the sinusoidal channel along a in **THO** (bottom). ▲

5. Supplementary information:

Other framework types containing (modified) single 3- and/or 4-rings

Single 3- and/or 4-rings can be connected in several other ways. In several 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) single 3- and/or 4-rings (choose: **Single 3- and/or 4-rings**). 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 4**). ▲