Building scheme for SVR

1. Periodic Building Unit – 2. Connection mode – 3. Channels and/or cages
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1. Periodic Building Unit

SVR can be built using units of 12 T atoms, or two 5-1 units. T12-units, related by a rotation of 180º about ***b***, form left- and right-handed chains along ***c***. The chains are equal to those in **MFI** and **MEL**. The pure screw rotation about ***b*** is falsified by vacancies (indicated as bold bonded sites in Figure 1). Chains, related by a rotation of 180º about ***c*** and a shift of 1/2***c***, are connected into the Periodic Building Unit (PerBU). The PerBU equals the ***bc*** layer (Figure 1).

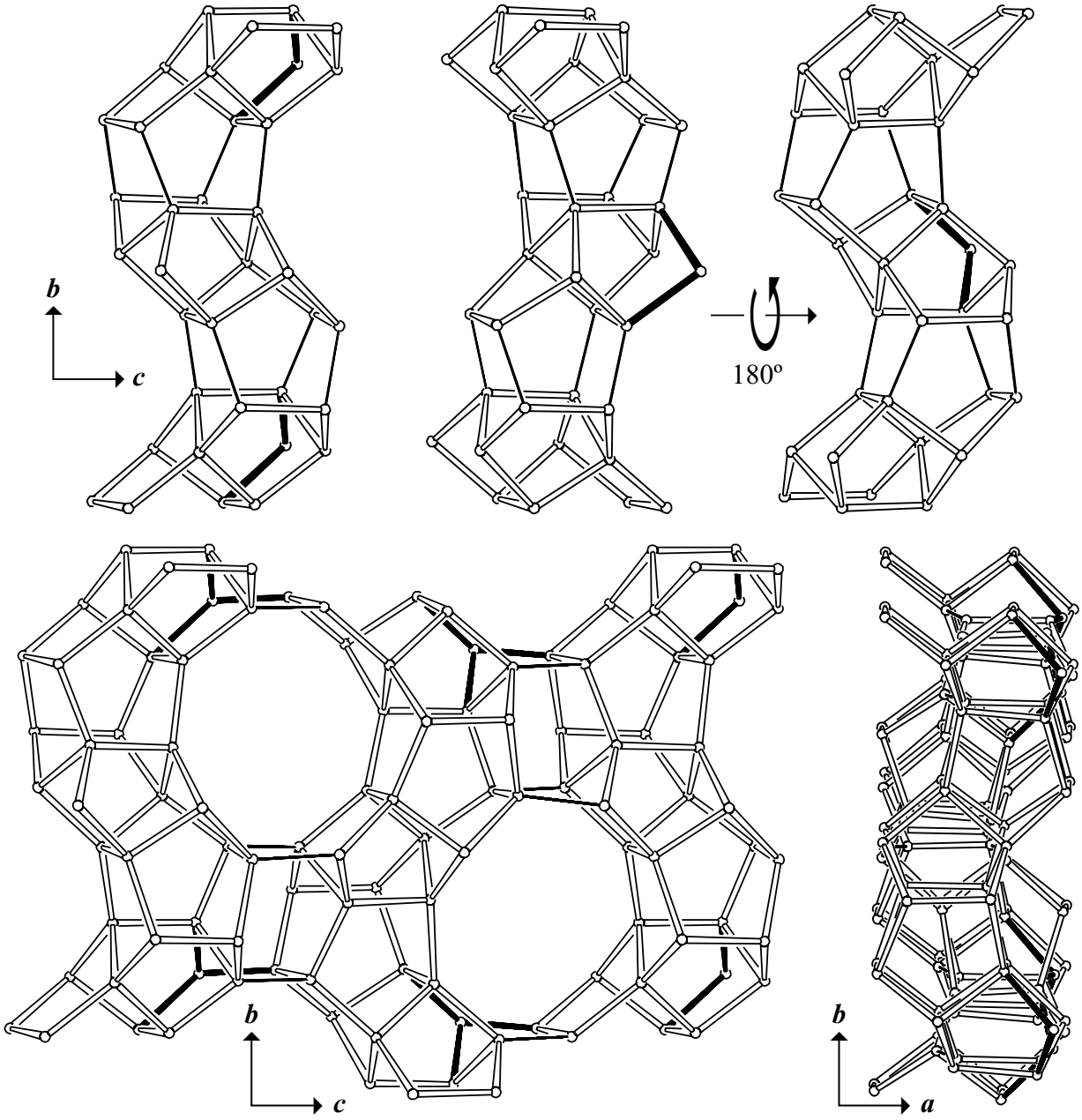

Figure 1. Figure 1. Polar chains (top) viewed along ***a***, and PerBU viewed along ***a*** (bottom left), and along ***c*** (right). Vacant T sites are indicated as bold bonded sites (which will be removed later).

2. Connection mode

Neighboring PerBUs, related by a shift of 1/2(***a*** + ***b***), are connected along ***c*** as shown in Figure 2.

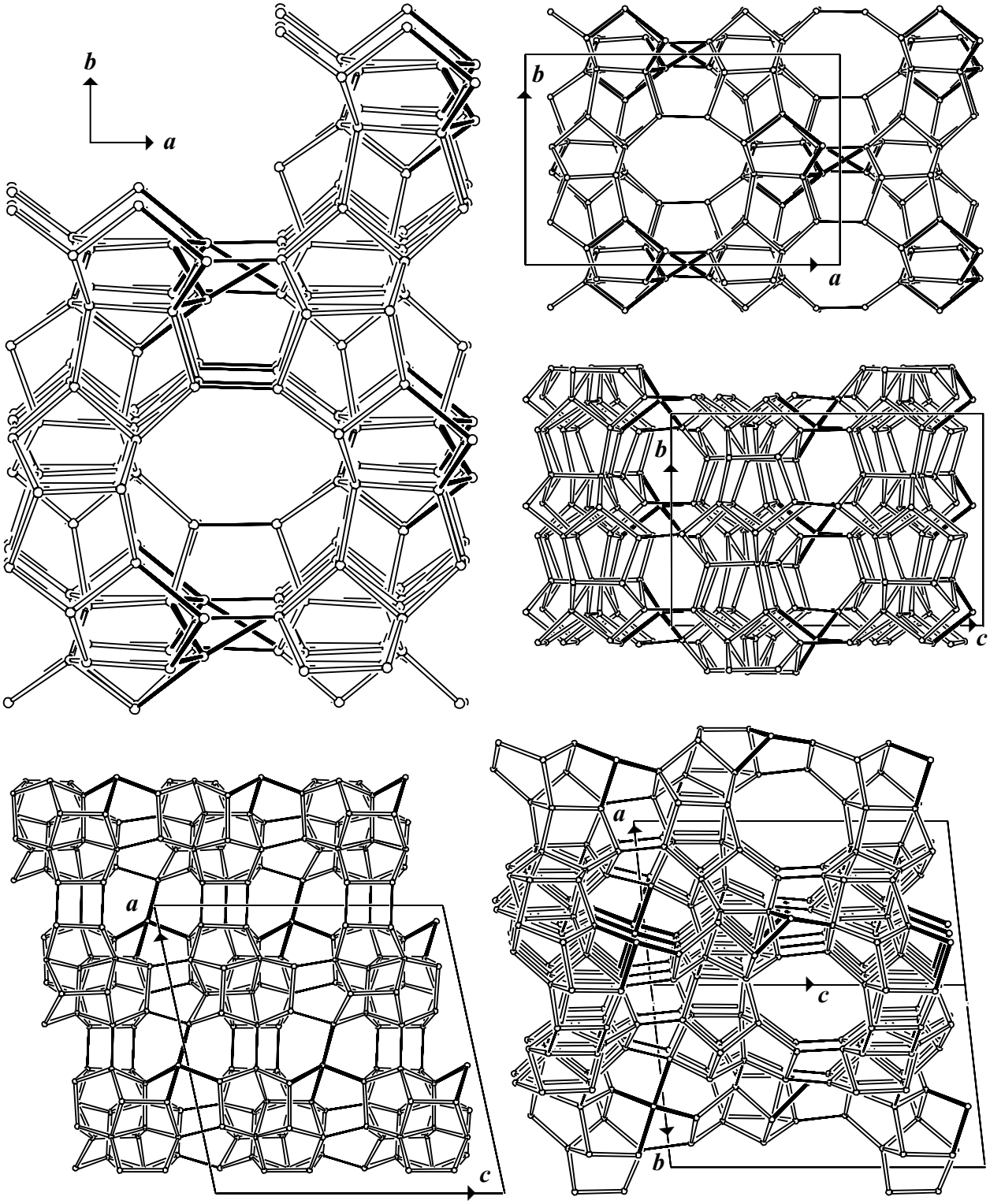

Figure 2. Connection mode (top left) and unit cell content (top right) viewed along ***c***. Middle and bottom: unit cell content viewed along ***a***, along ***b*** (bottom left) and along [110] (bottom right). Vacant T sites are shown as bold bonded sites.

3. Channels and/or cages

Undulating 10-ring channels are parallel to [110]. 10-Ring channels along ***b*** and ***c***, are interconnecting the 10-ring channels along [110]. The channel intersection, consisting of a "double " cavity is illustrated in Figure 3. Vacant T sites are skipped and terminal oxygen atoms are added as bold bonded large circles. The **pore descriptors** is added.

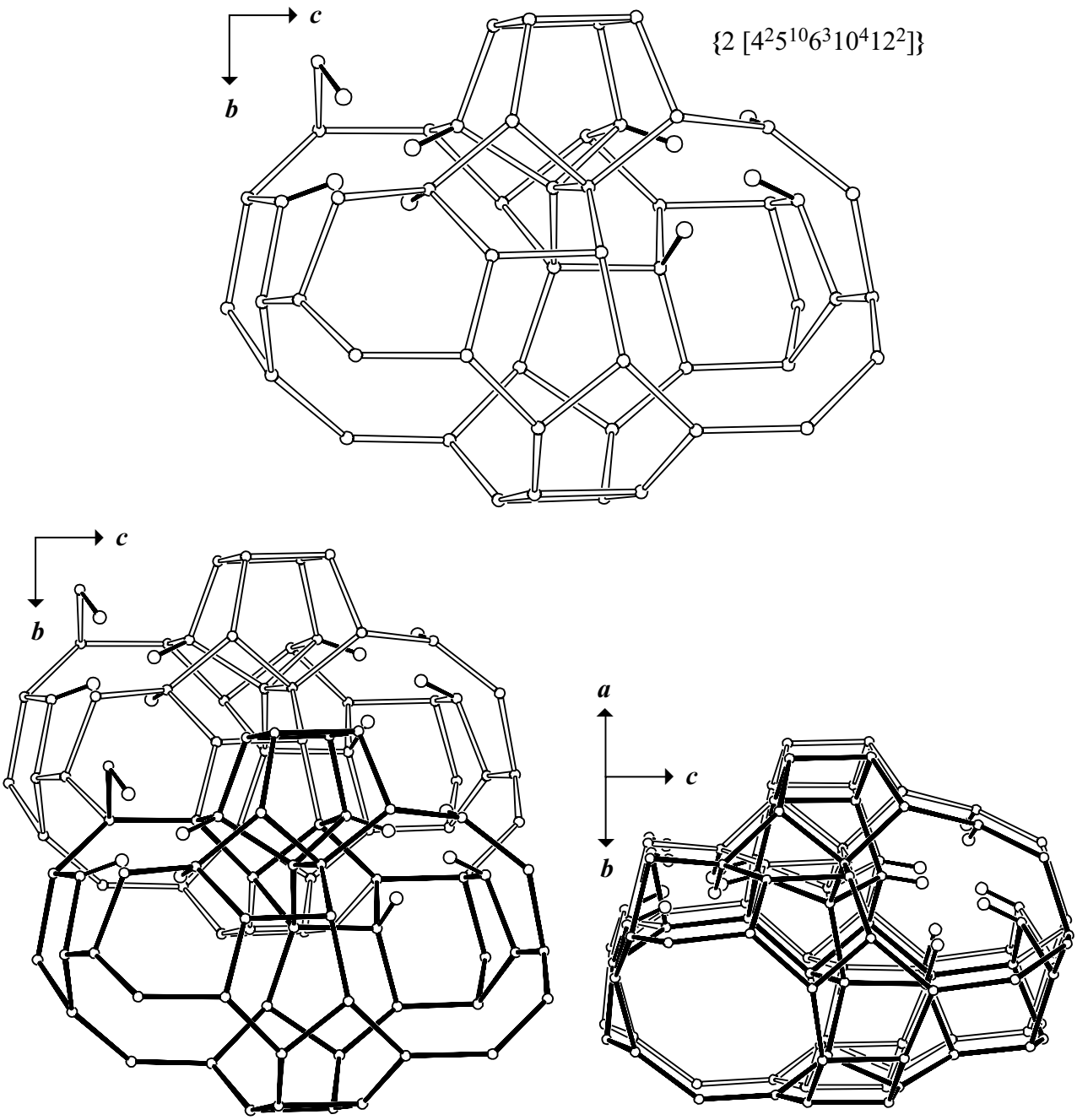

Figure 3a. Channel intersection viewed along ***a*** (top) and connection of intersections along (***a*** + ***b***) viewed along ***a*** (left) and along the undulating channel parallel [110] (right).
[Figure 3 is continued on next page]

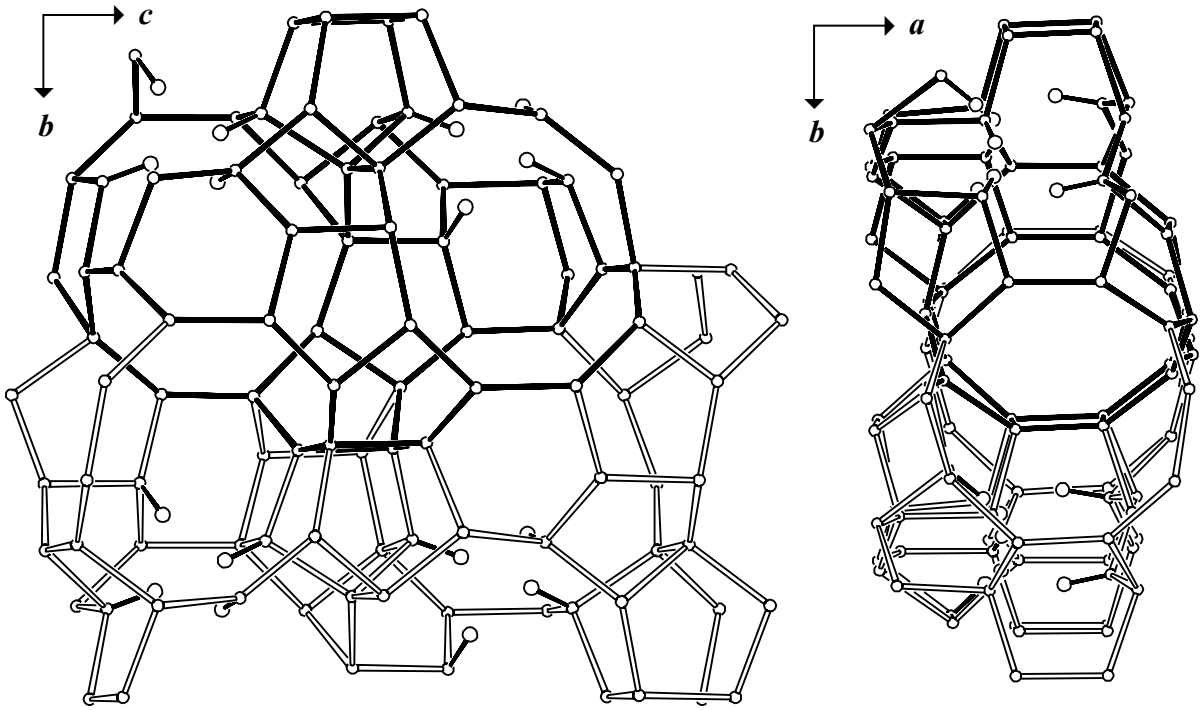

Figure 3b. Extension of the intersection along ***b*** viewed along ***a*** (left) and along the sinusoidal channel parallel ***c*** (right).

4. Composite Builing Units

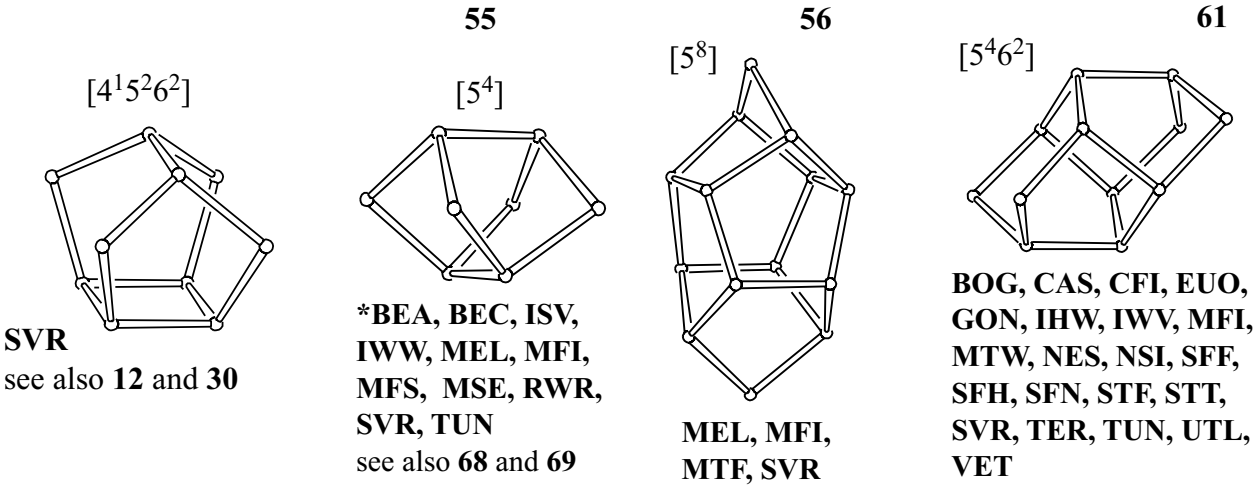

Figure 4. Composite Building Units.

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**).