Building scheme for BSV

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

Cubic **BSV** can be built using the two types of helical ribbons as PerBUs. The helices are composed of edge-sharing 4-rings (Figure 1) running parallel to ***c***. The repeat unit of the helix consists of 16 T atoms and its repeat length equals the length of the unit cell ***c*** axis. The two helices are of opposite chirality as is shown in Figure 1.

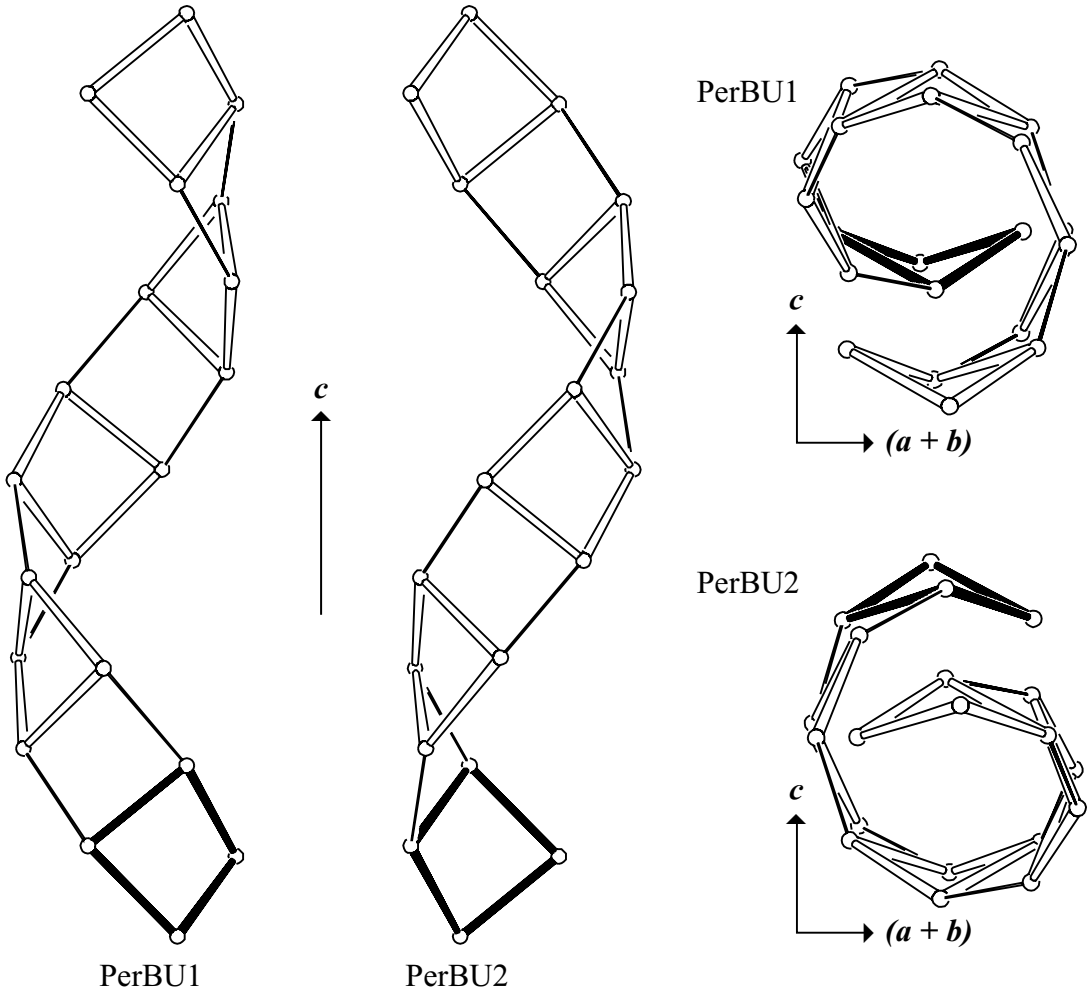


Figure 1. PerBU1 and PerBU2 viewed nearly along [110] (left and middle) and along ***c*** (right). One 4-ring in bold.

2. Connection mode

Neighboring PerBUs of the same chirality, related along ***c*** by a screw rotation of 180° about ***c***, are connected along <1-10> through additional 4-rings as shown in Figure 2.

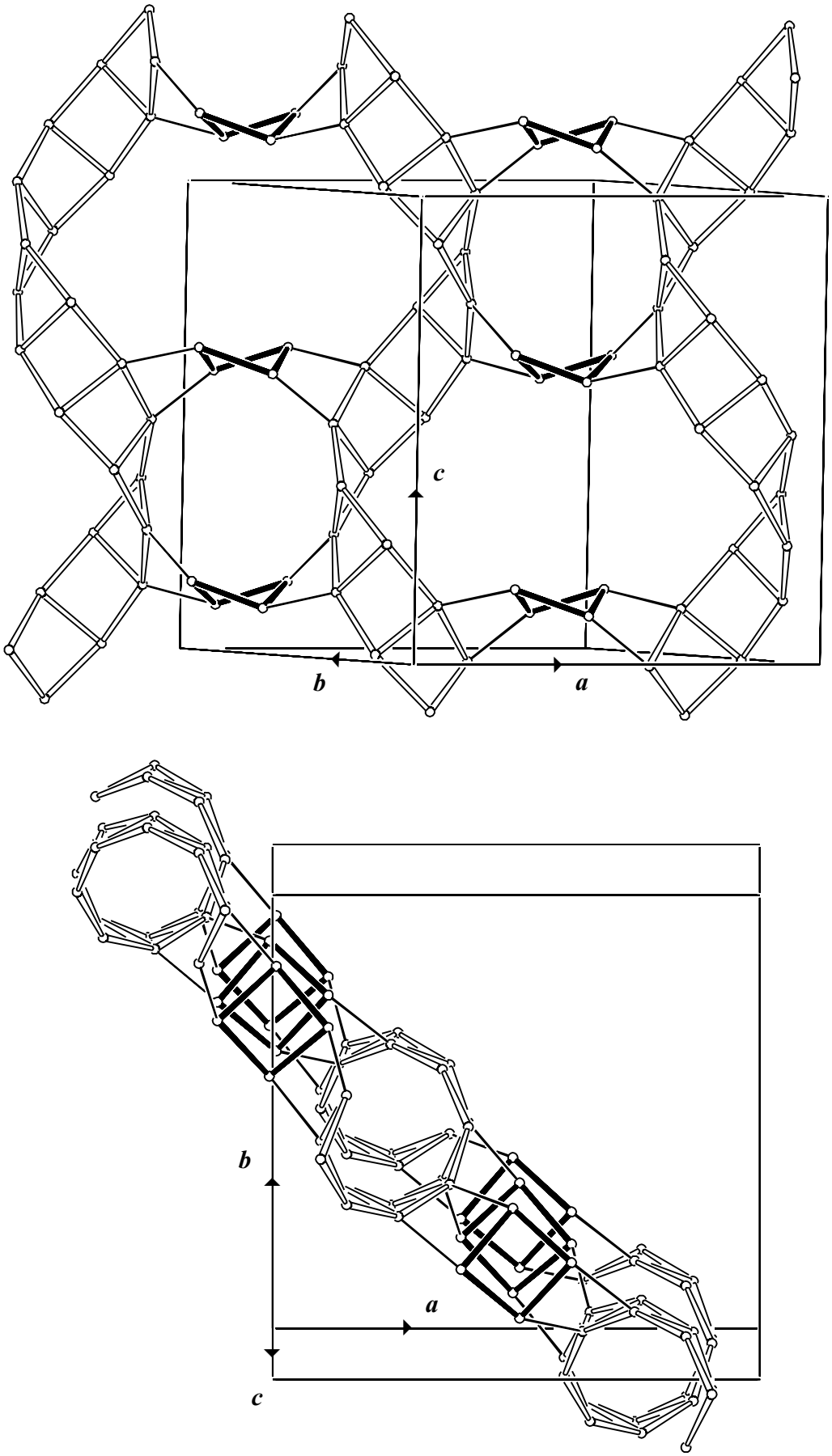
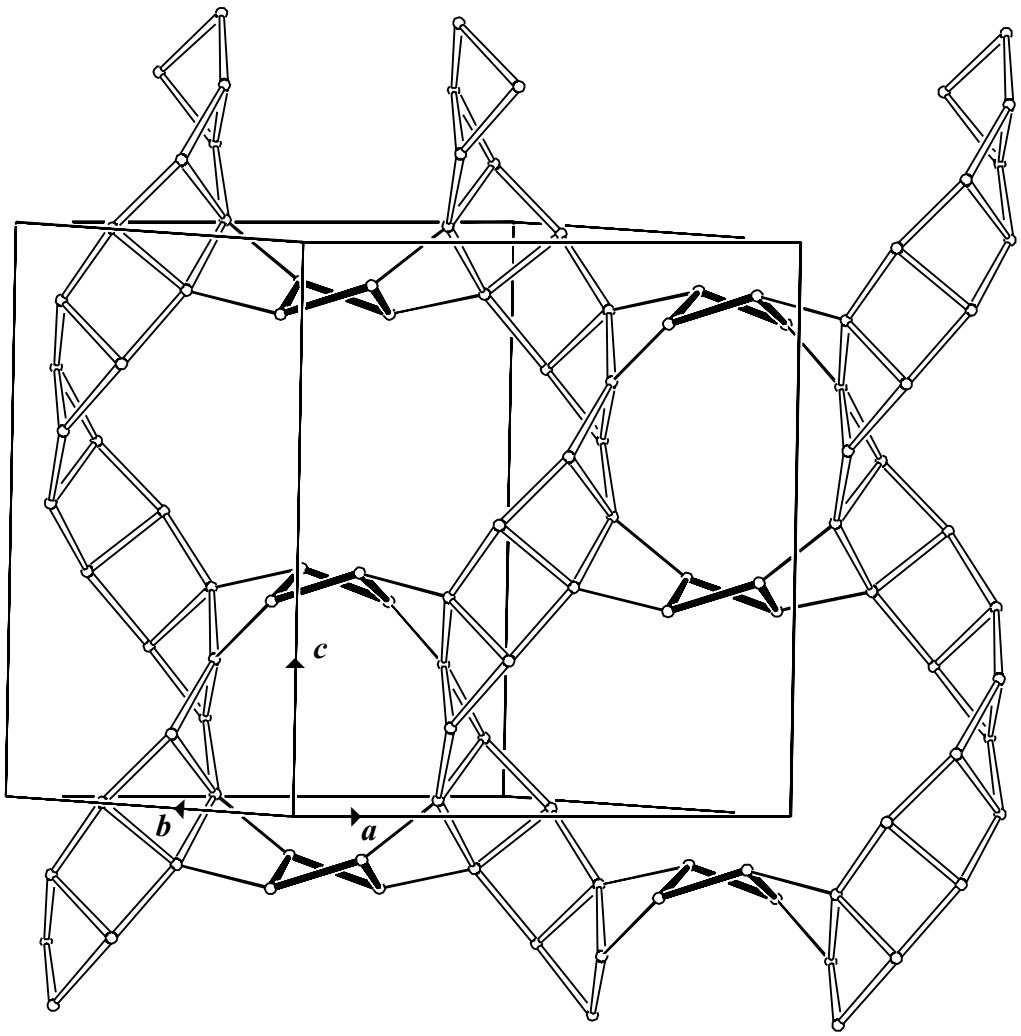


Figure 2a. Connection mode between PerBU1s in the (110) plane viewed along [110] (top) and along ***c*** (bottom).



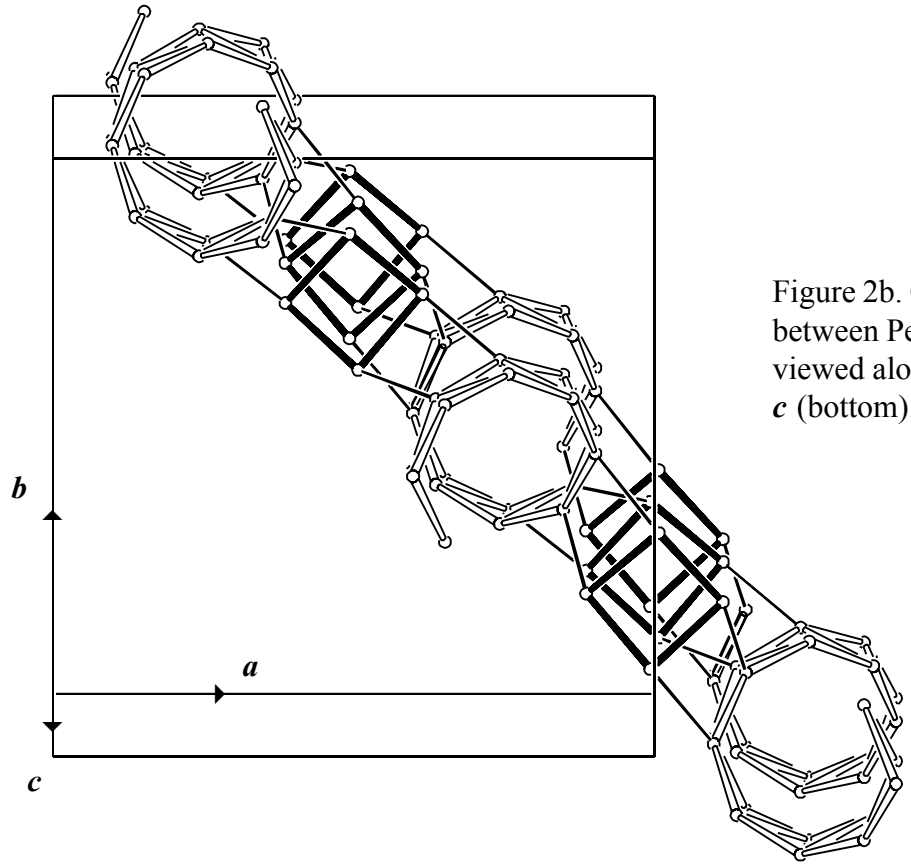


Figure 2b. Connection mode between PerBU2s in the (110) plane viewed along [110] (top) and along ***c*** (bottom).

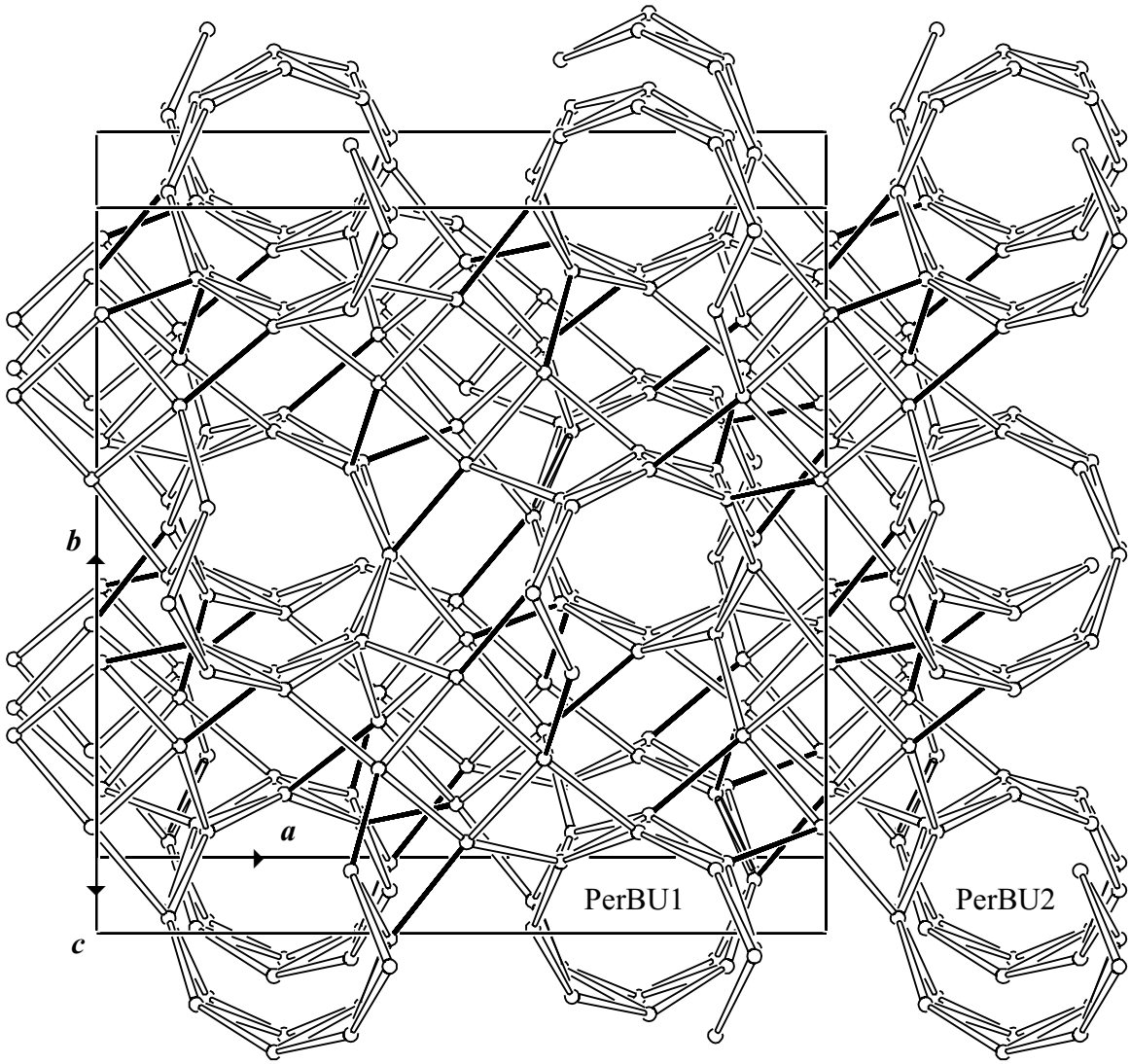


Figure 2c. Connection mode between (110) planes and unit cell content viewed along [110].

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3. Channels and/or cages

Connection modes, shown in Figures 1 and 2, form additional helices along ***a*** and ***b***. The 9-ring helices, parallel to <001>, form an interconnecting three-dimensional channel system (See Figure 3 on next page).

4. Composite Builing Units

No composite building units recognized. No **pore descriptor** is assigned.

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**).

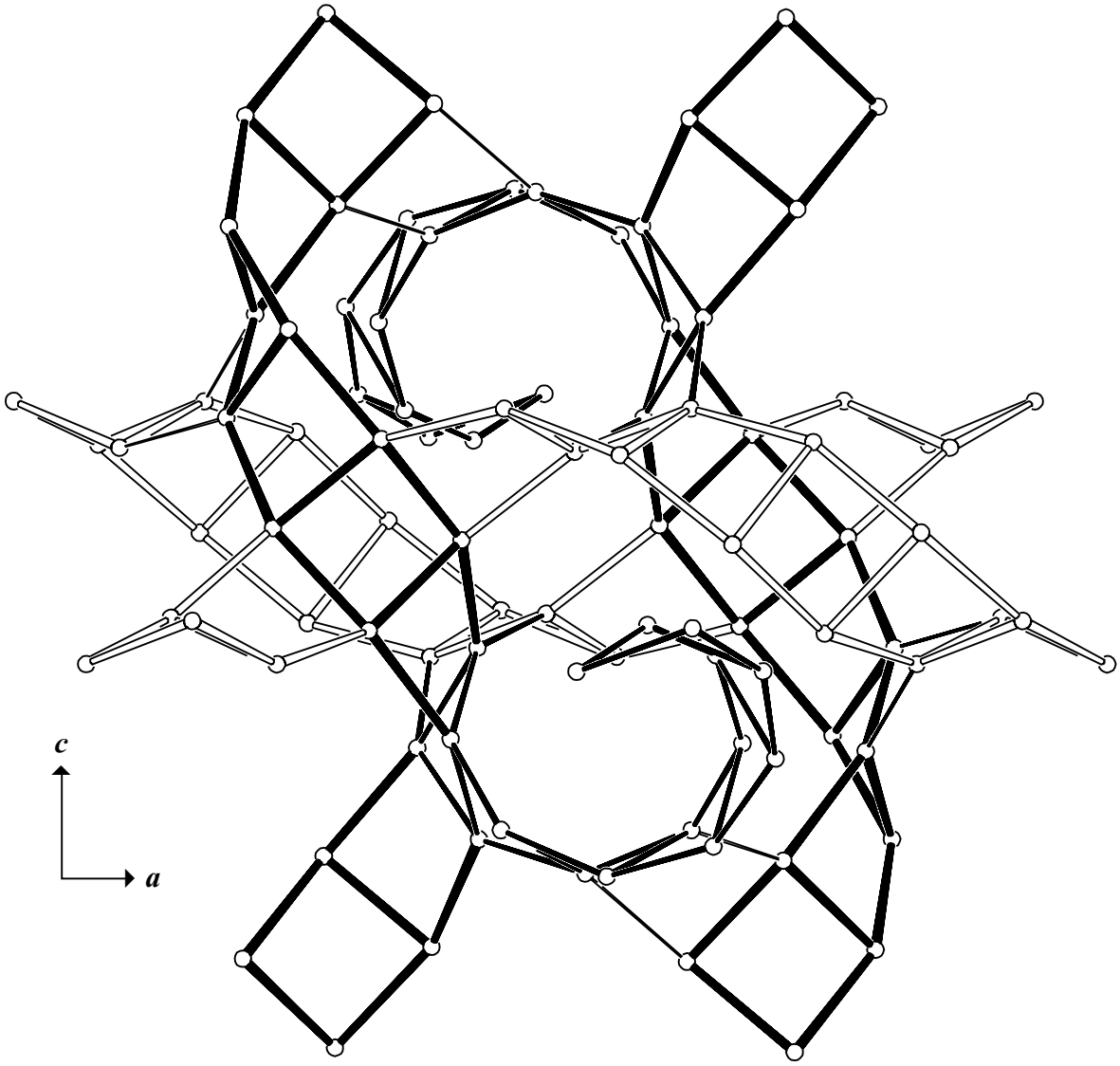

Figure 3. Example of the interconnecting three-dimensional channel system.