Building scheme for EUO

1. Periodic Building Unit:

EUO can be built using building units composed of 14 T atoms: three finite zigzag chains (4 T atoms each and parallel to *c*) and a T2-dimer (Figure 1(left)), or two 1-5-1 units (Figure 1(right)) [See: **Alternative description**; Compare this building unit with those in **BIK**, **CAS** and **NSI**]. The two-dimensional Periodic Building Unit (PerBU) is obtained when T14-units, related along *a* by a mirror plane perpendicular to *b* and related along *a* by a 2-fold axis parallel to *c*, are connected into the *ab* layer shown in Figure 2. [Compare this PerBU with the PerBUs in **NES** and **NON**]
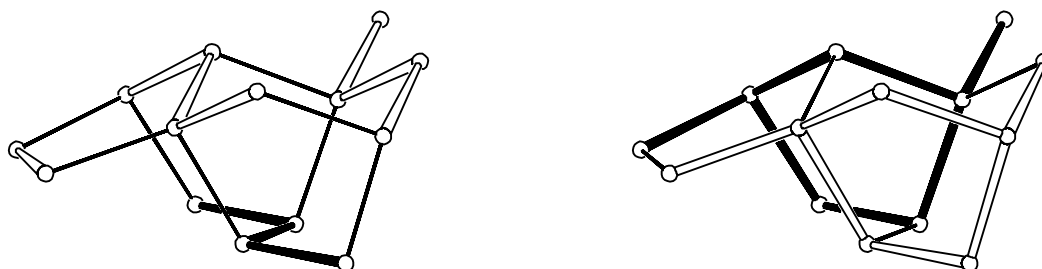

Figure 1. Finite building unit, viewed along *c*, built from three (finite) zigzag chains (one in bold) and a T2-dimer (left) and finite building unit built from two 1-5-1 units (one in bold; right).
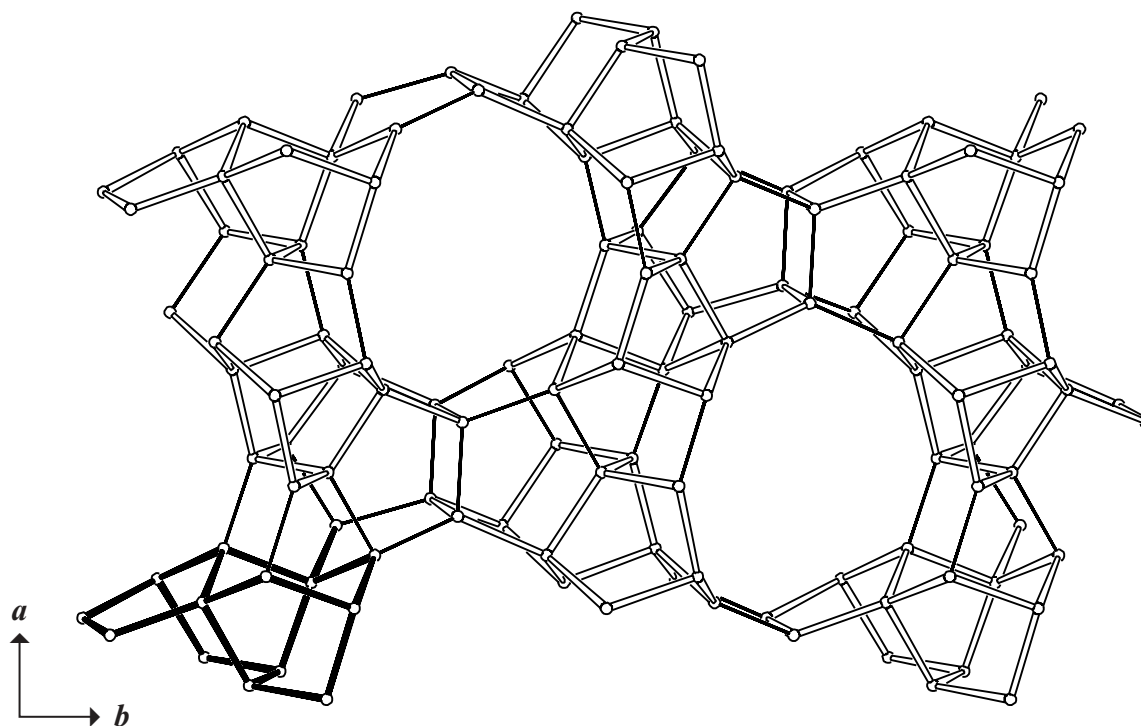

Figure 2. PerBU in **EUO** viewed along *c* (one T14-unit in bold). [Figure 2 is continued on next page]
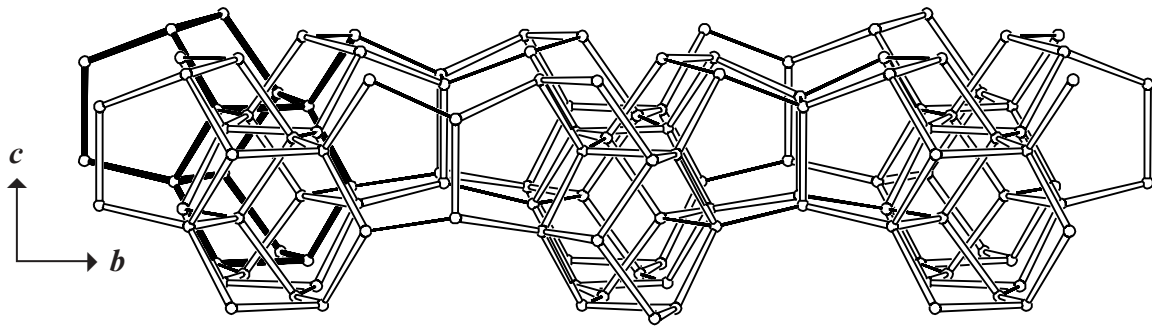
Figure 2 [Cont'd]. PerBU in **EUO** viewed along *a*.

2. Connection mode:

Neighboring PerBUs, related by a rotation of 180º about *a*, are connected along *c*, as shown in Figure 2.
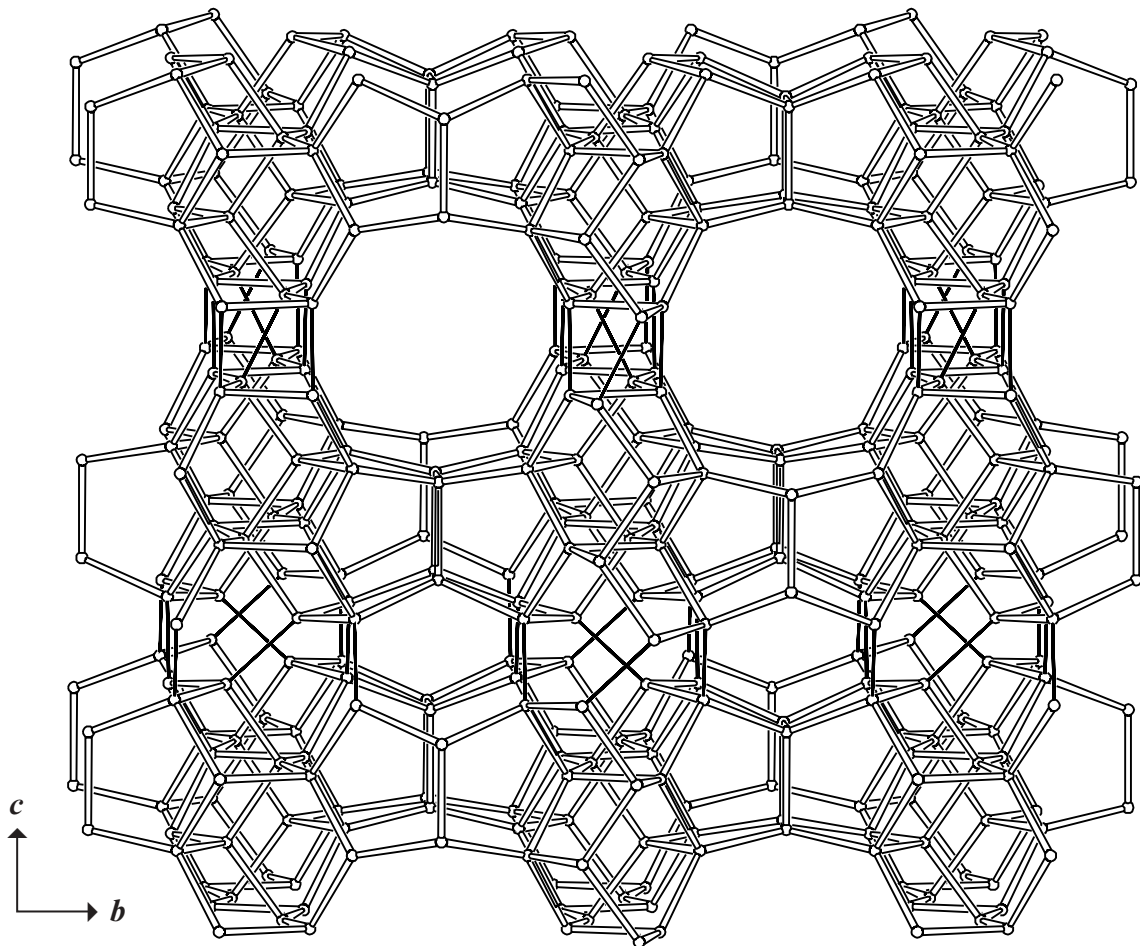

Figure 3. Connection mode in **EUO** viewed along *a*.

3. Projections of the unit cell content: See next page

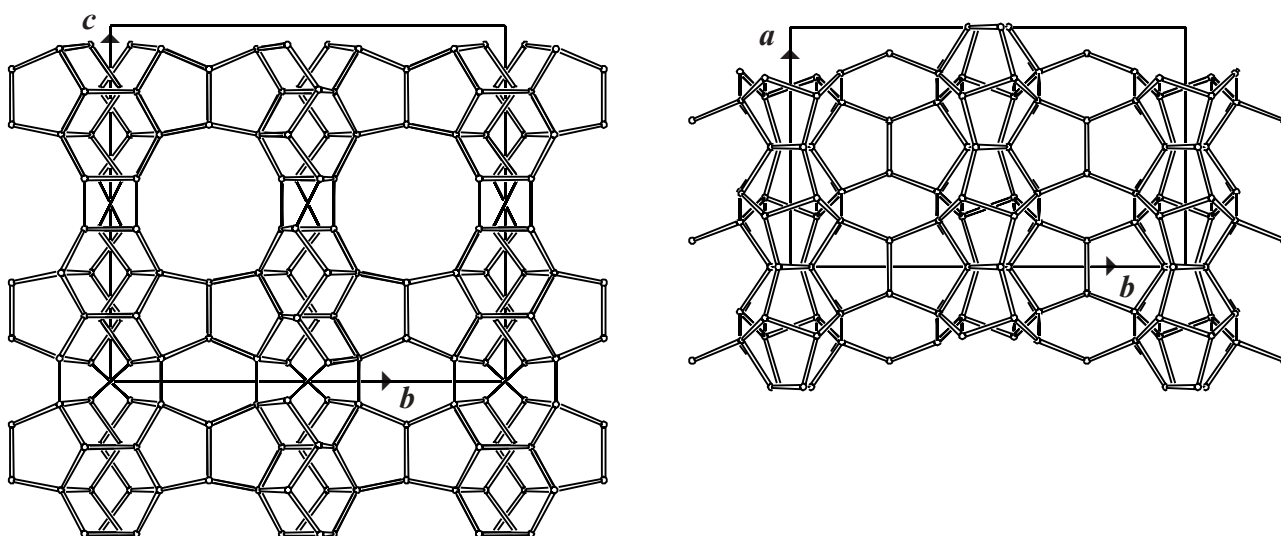## 3. Projections of the unit cell content:

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Figure 4. Unit cell content in **EUO** projected along *a* (left), and along *c* (right). ▲

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4. Channels and/or cages:

Cavities with large side-pockets (Figure 5) are connected into one-dimensional non-interconnected channels with 10-ring windows parallel to *a* as depicted in Figure 6. The **pore descriptor** is added in Figure 5.
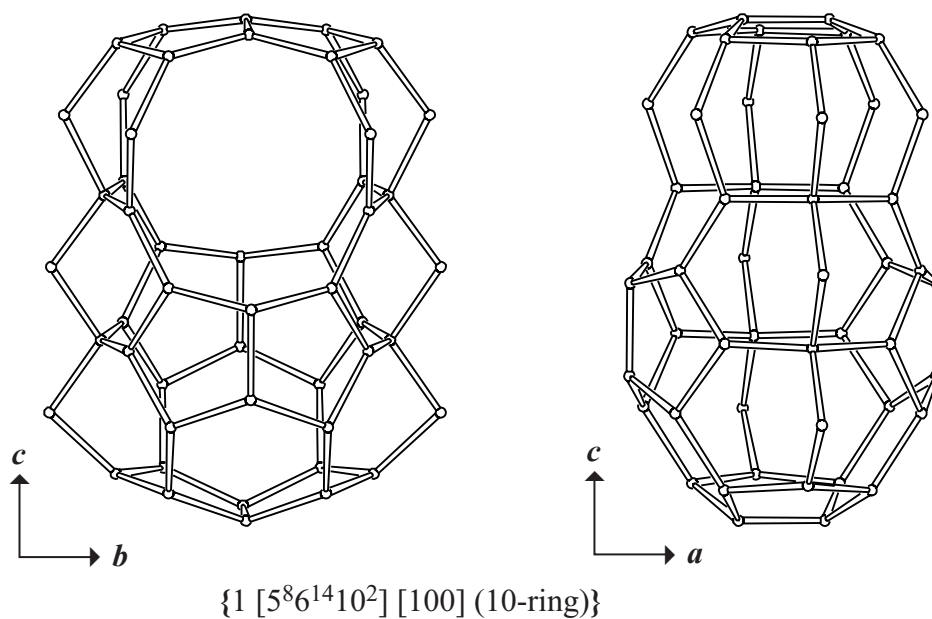
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$\{1 \ [5^8 6^{14} 10^2] \ [100] \ (10\text{-ring})\}$

Figure 5. Cavity in **EUO** viewed along *a* (left), and along *b* (right). [Figure 6 is on next page]
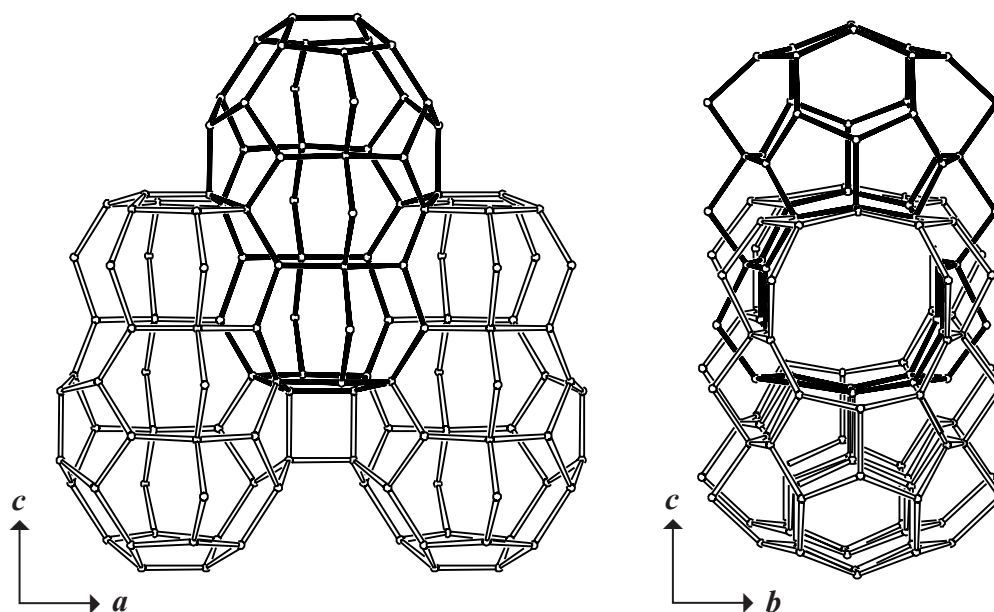
Figure 6. Fused cavities along *a*, (viewed along *b* (left), and along *a* (right)), form 10-ring channels along *a*.

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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 using (modified) 5-rings
Several framework types, like **EUO**, can be constructed using (modified) 5-rings.
In the **INTRO** pages links are given to detailed descriptions of these framework types (choose: **5-Rings**). There is also a link provided to a summary of the Periodic Building Units used in the building schemes of these framework types (choose: **Appendix**; **Figure 6**).

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