

# Amino Join Units

by Robert William Whitby  
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## References

1. Robert William Whitby, octahedron1sted.pdf, page 192

## Introduction

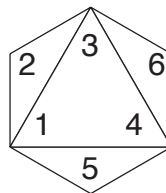
The genetic code insists that each codon specify both the side chain of a peptide and the join that will exist between that peptide and the next adjoining peptide in the chain. It does this by specifying an *amino join unit*.

An amino join unit consists, then, of the alpha-C-atom of one amino acid and the carbonyl-C-atom of the next adjoining amino acid along with the join-enclosing NH<sub>2</sub>O group.

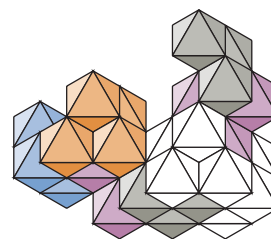
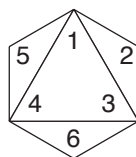
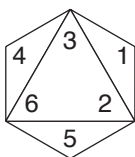
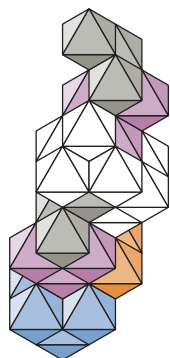
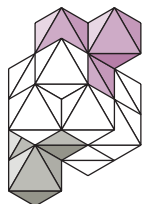
In every instance, the join between join units is always the same—the alpha-C-atom of a given join unit is joined to the carbonyl-C-atom of the previous join unit so that the two C-atoms are cleftly joined left-handedly. It follows that the carbonyl C-atom of a given join unit is cleftly joined left handedly to the alpha C-atom of the next adjacent join unit. [See Figure 1]

The body of this document consists of an atlas of orientations which shows each of the join units in each of its twenty-four possible orientations when viewed perpendicular to each of the eight faces of the octahedron.

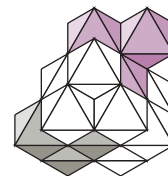
join units



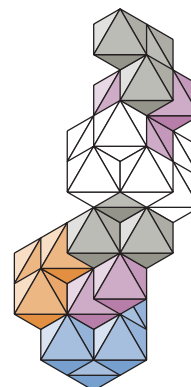
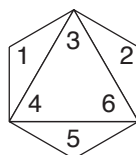
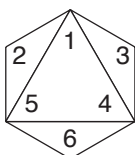
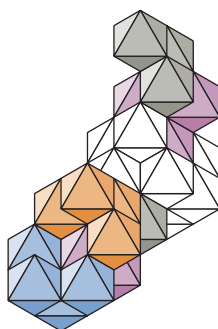
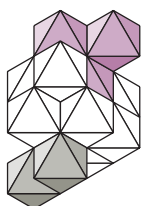
beta180



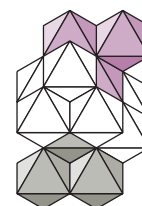
alpha



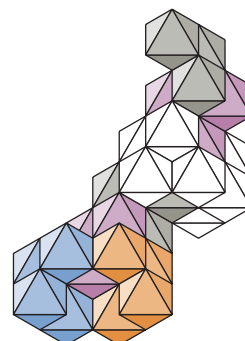
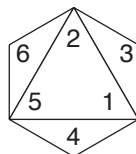
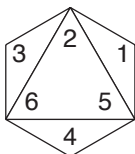
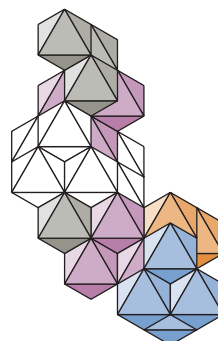
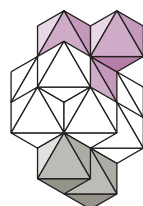
4-helix



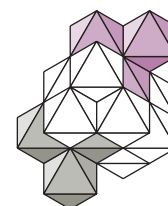
beta90



32-chain

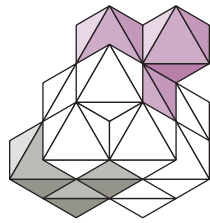


epsilon

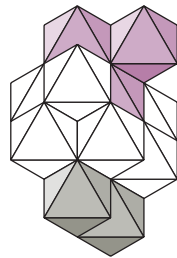


**Figure 1.** The amino join unit includes the alpha-C-atom of one amino acid and the carbonyl-C-atom of the next adjoining amino acid along with the join-enclosing NH<sub>2</sub>O-group.

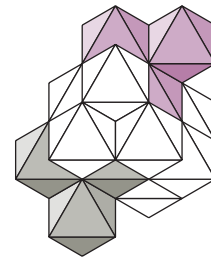
Each of the six amino join units  
shown in each of  
twenty-four facial orientations—  
one facial view and its obverse  
per page  
in each of three rotations



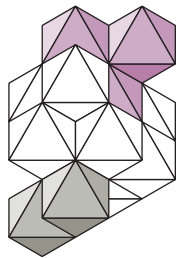
alpha



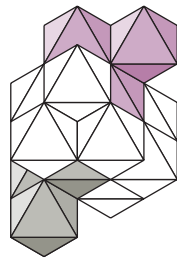
32-chain



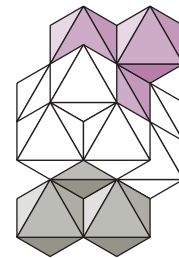
epsilon



4-helix



beta180

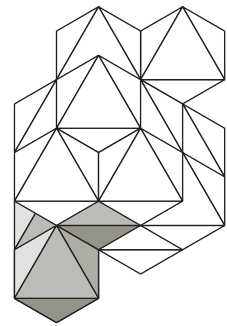
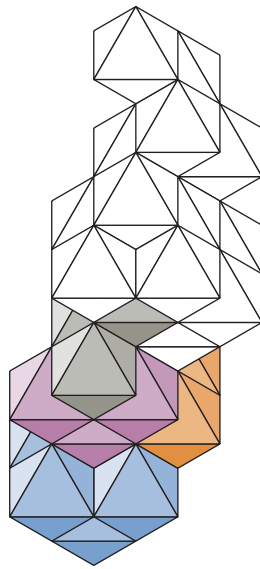


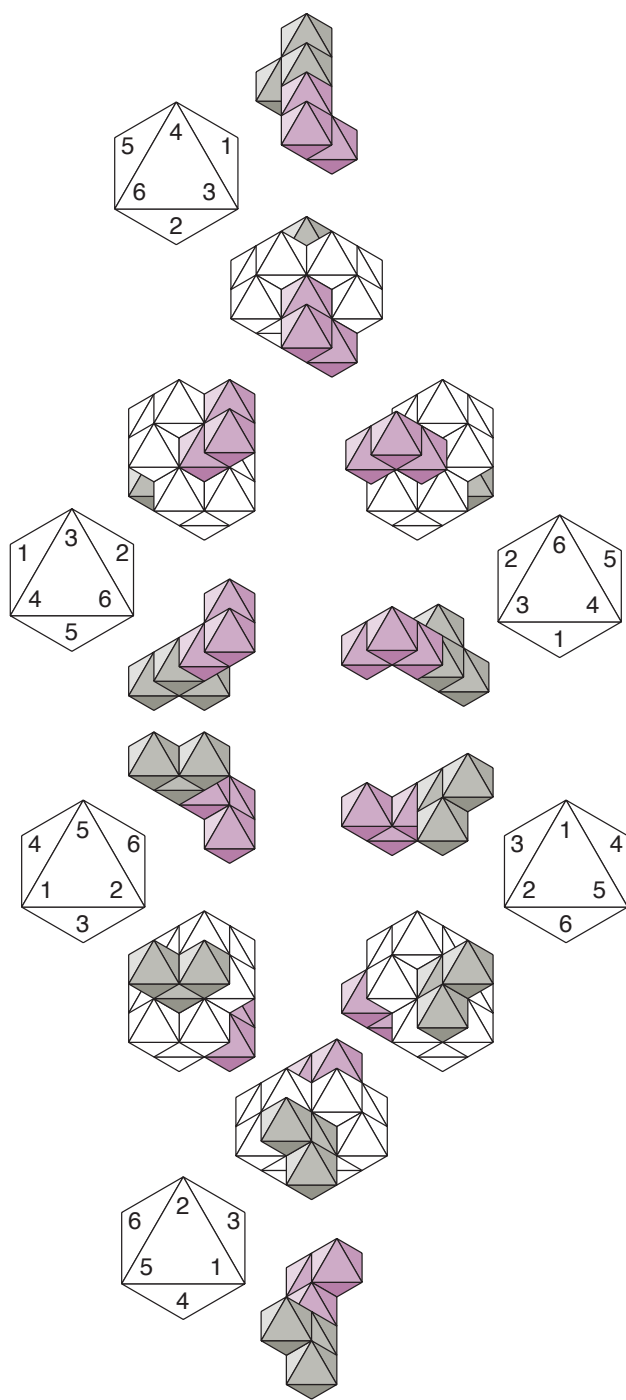
beta90

**Figure 2. The six amino join units**

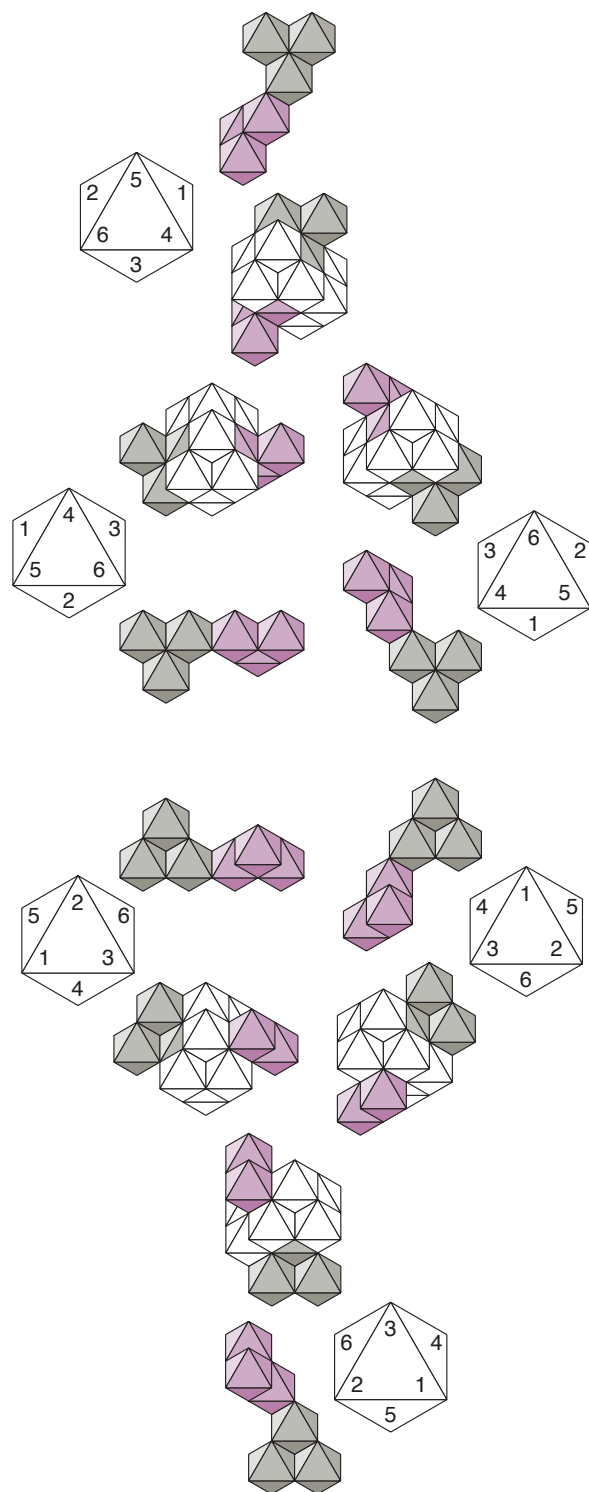
Each of the amino join units is shown with its alpha-C-atom colored violet and its carbonyl-C-atom colored gray. Note that the alpha-C-atom and the un-colored NH<sub>2</sub>O-group is the same for each of the join units. Only the orientation of the carbonyl C-atom is unique to a given join unit.

beta180

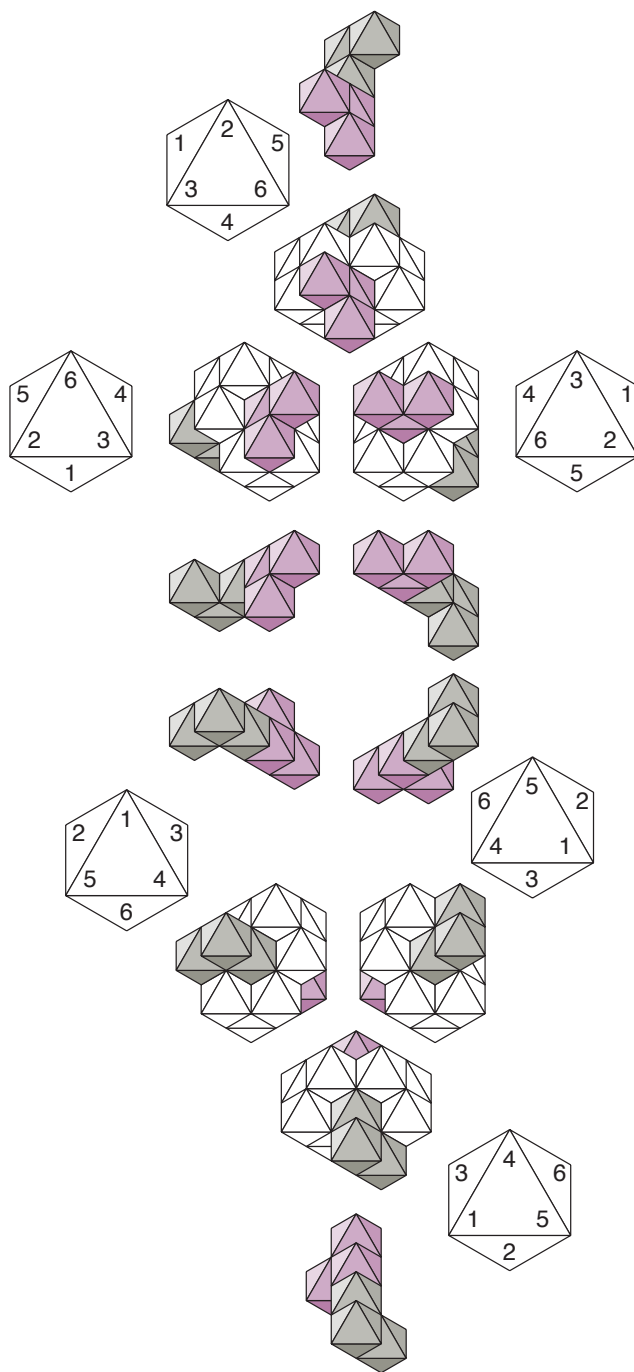




**Figure 3. Six orientations of the b180 join unit viewed normally to the 346 and 125 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 346 face are at the top; the three views perpendicular to the 125 face are below.

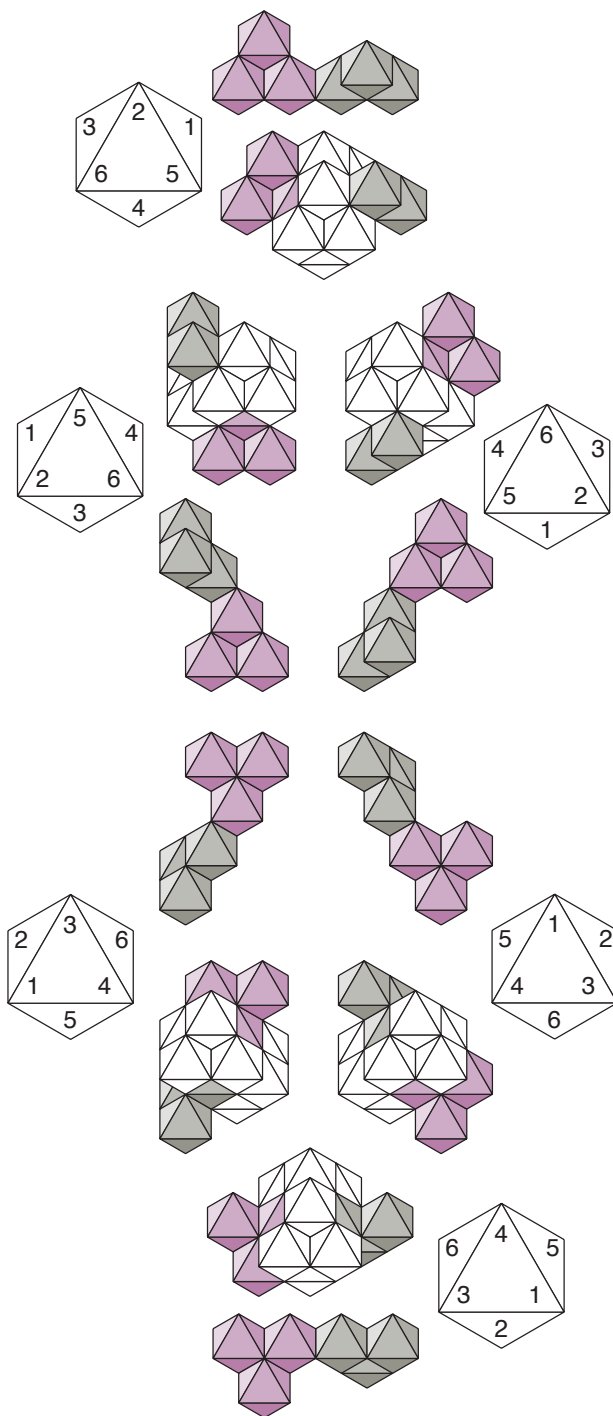


**Figure 4. Six orientations of the b180 join unit viewed normally to the 456 and 123 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 456 face are at the top; the three views perpendicular to the 123 face are below.



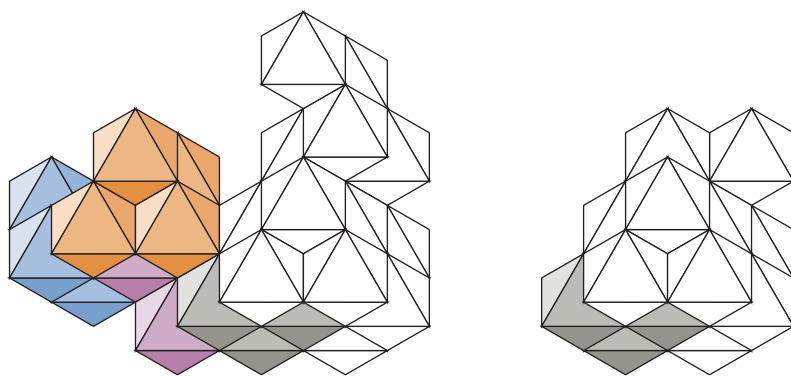
**Figure 5. Six orientations of the b180 join unit viewed normally to the 623 and 541 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 623 face are at the top; the three views perpendicular to the 541 face are below.

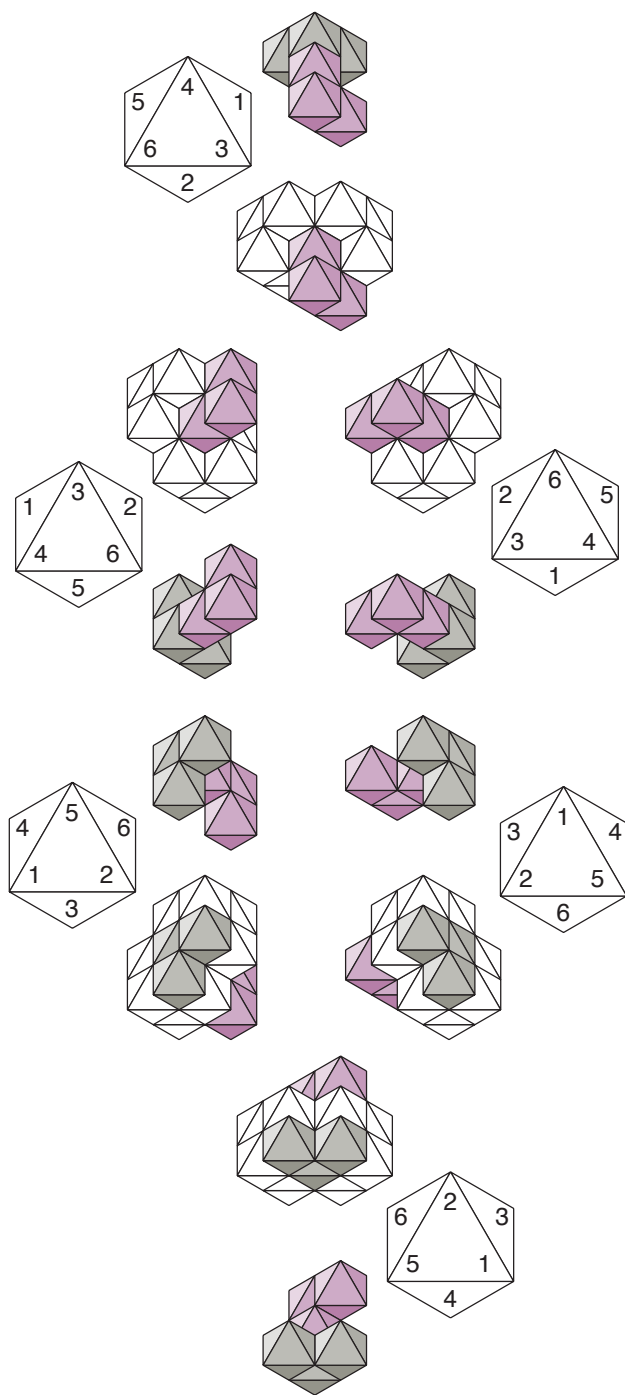




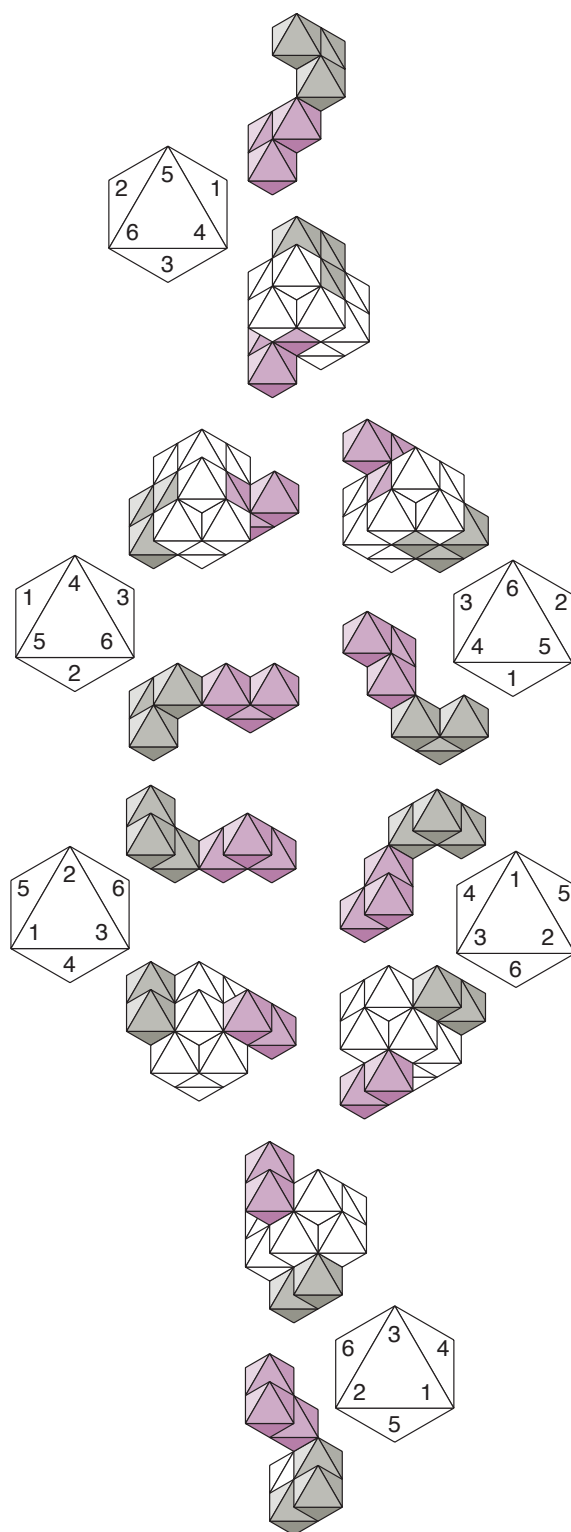
**Figure 6. Six orientations of the b180 join unit viewed normally to the 652 and 431 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 652 face are at the top; the three views perpendicular to the 431 face are below.

alpha

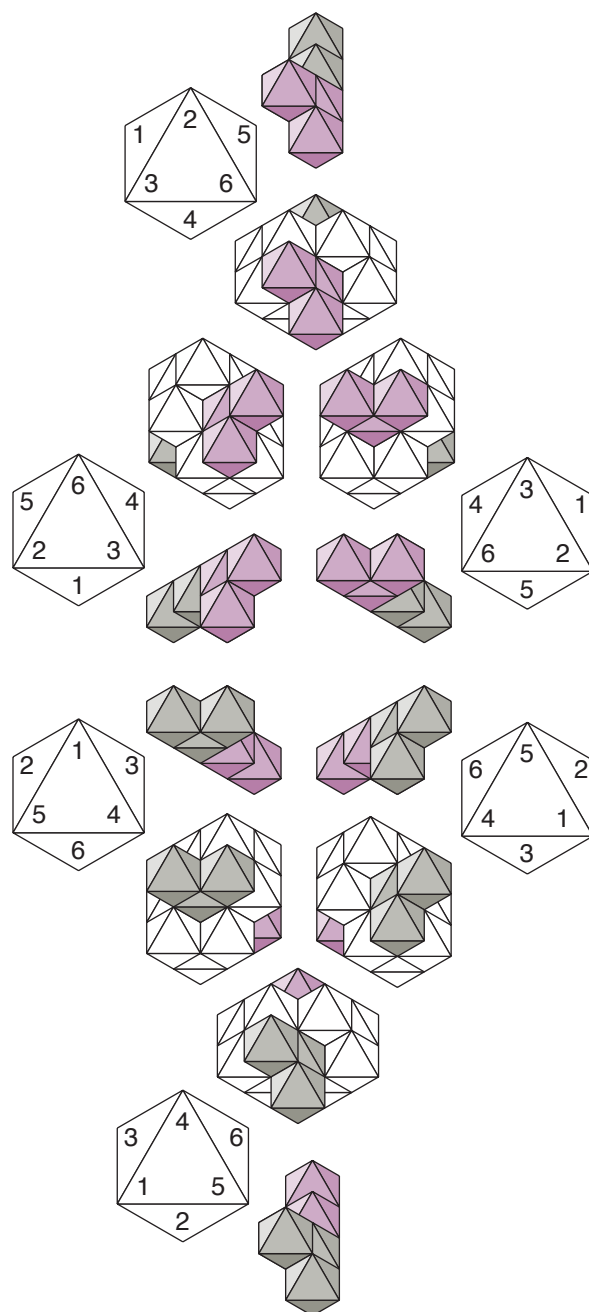




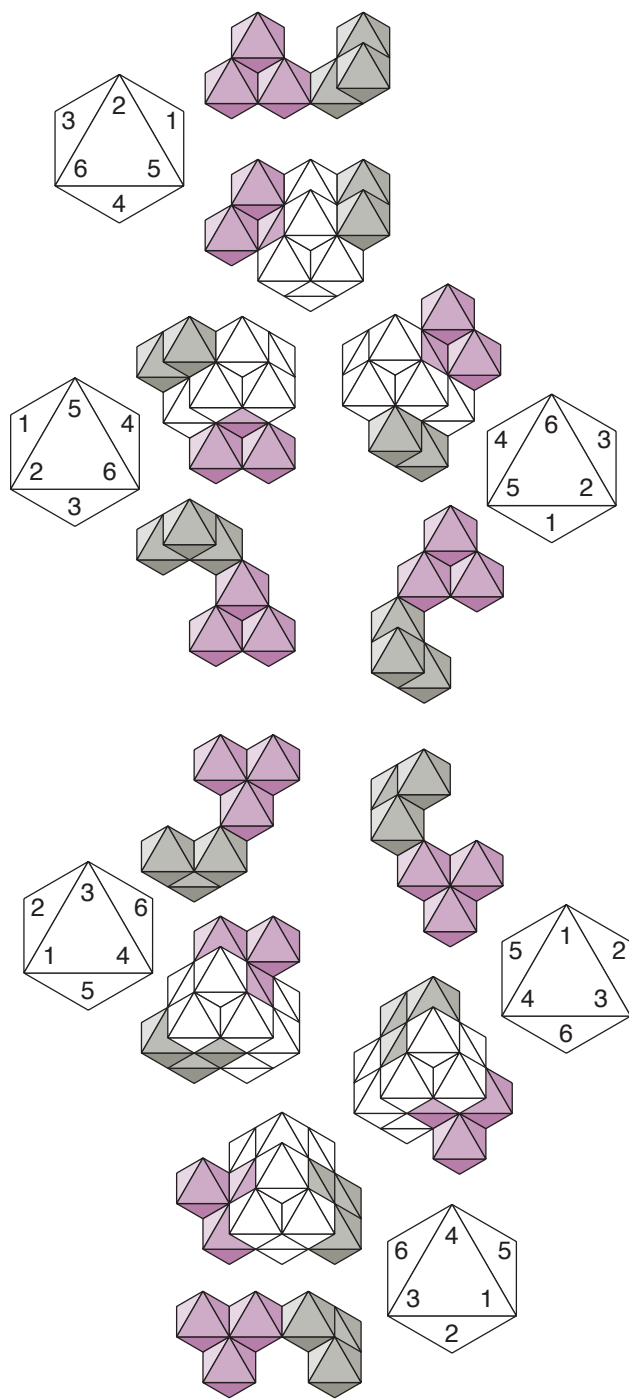
**Figure 7. Six orientations of the alpha join unit viewed normally to the 346 and 125 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 346 face are at the top; the three views perpendicular to the 125 face are below.



**Figure 8. Six orientations of the alpha join unit viewed normally to the 456 and 123 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 456 face are at the top; the three views perpendicular to the 123 face are below.

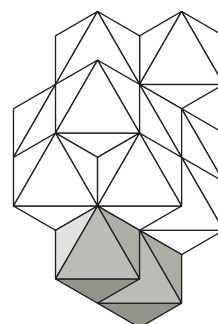
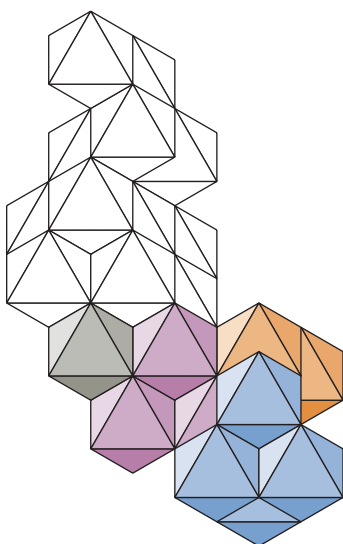


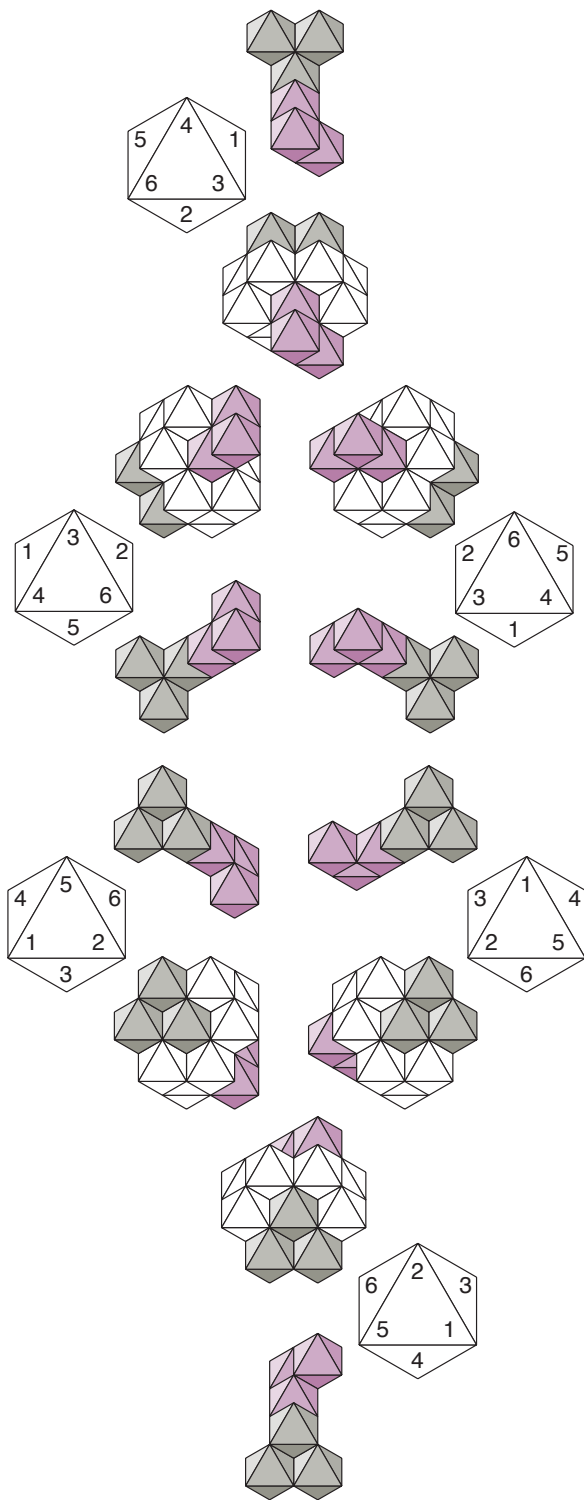
**Figure 9. Six orientations of the alpha join unit viewed normally to the 623 and 541 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 623 face are at the top; the three views perpendicular to the 541 face are below.



**Figure 10. Six orientations of the alpha join unit viewed normally to the 652 and 431 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 652 face are at the top; the three views perpendicular to the 431 face are below.

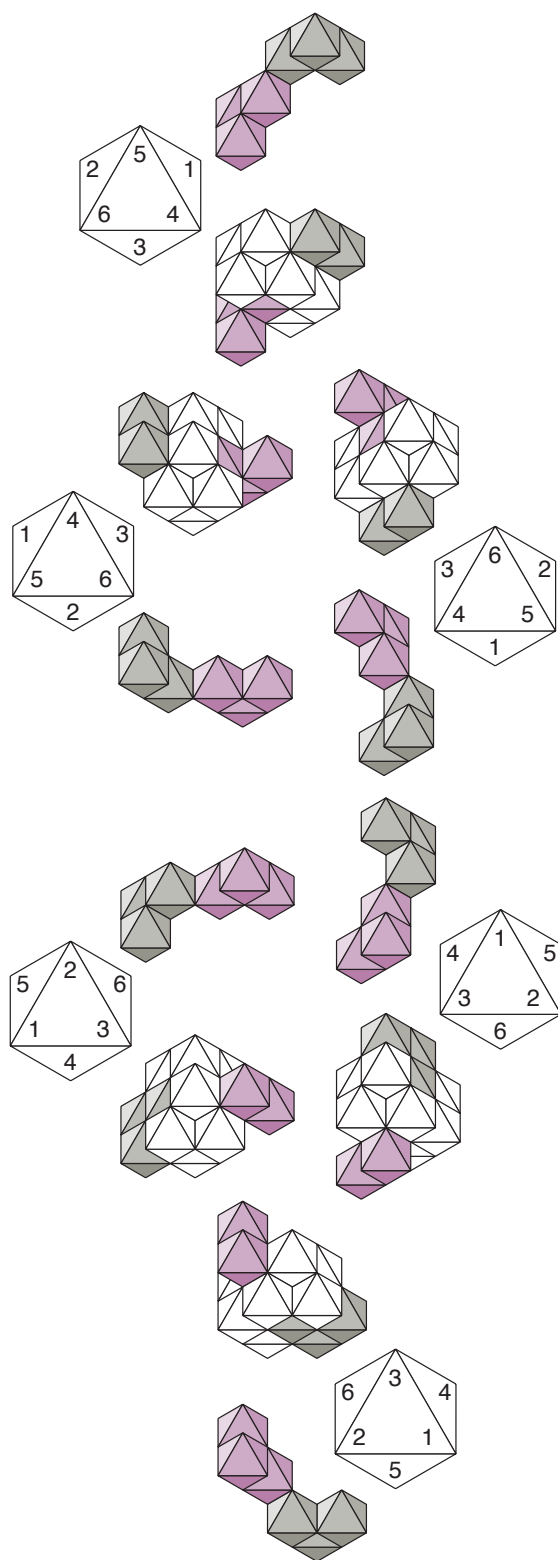
32-chain



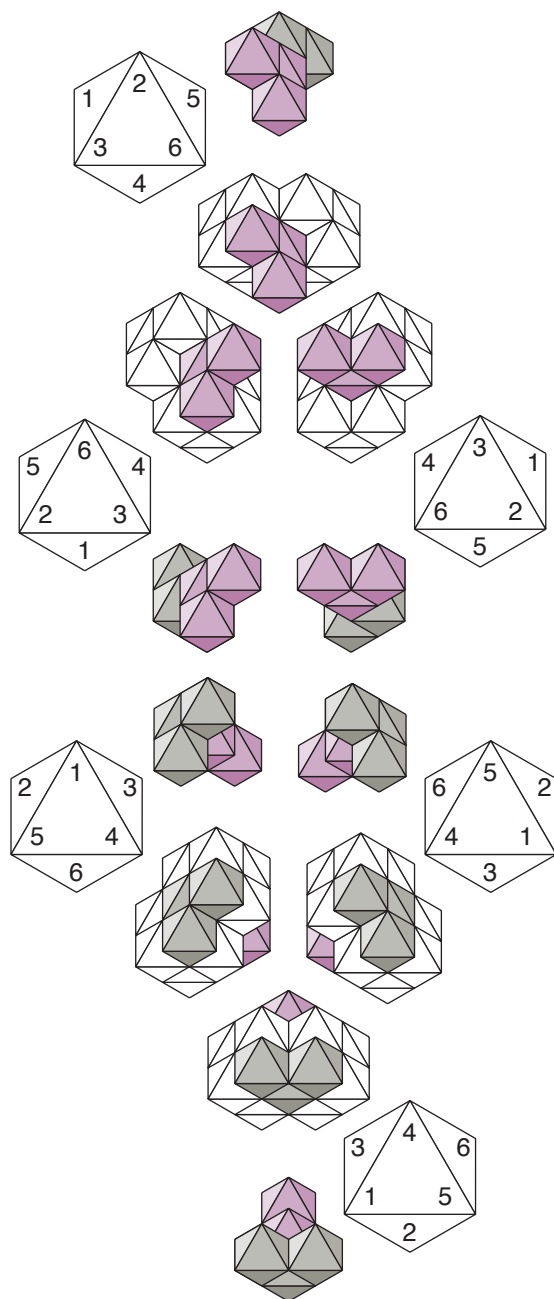


**Figure 11. Six orientations of the 32chn join unit viewed normally to the 346 and 125 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 346 face are at the top; the three views perpendicular to the 125 face are below.

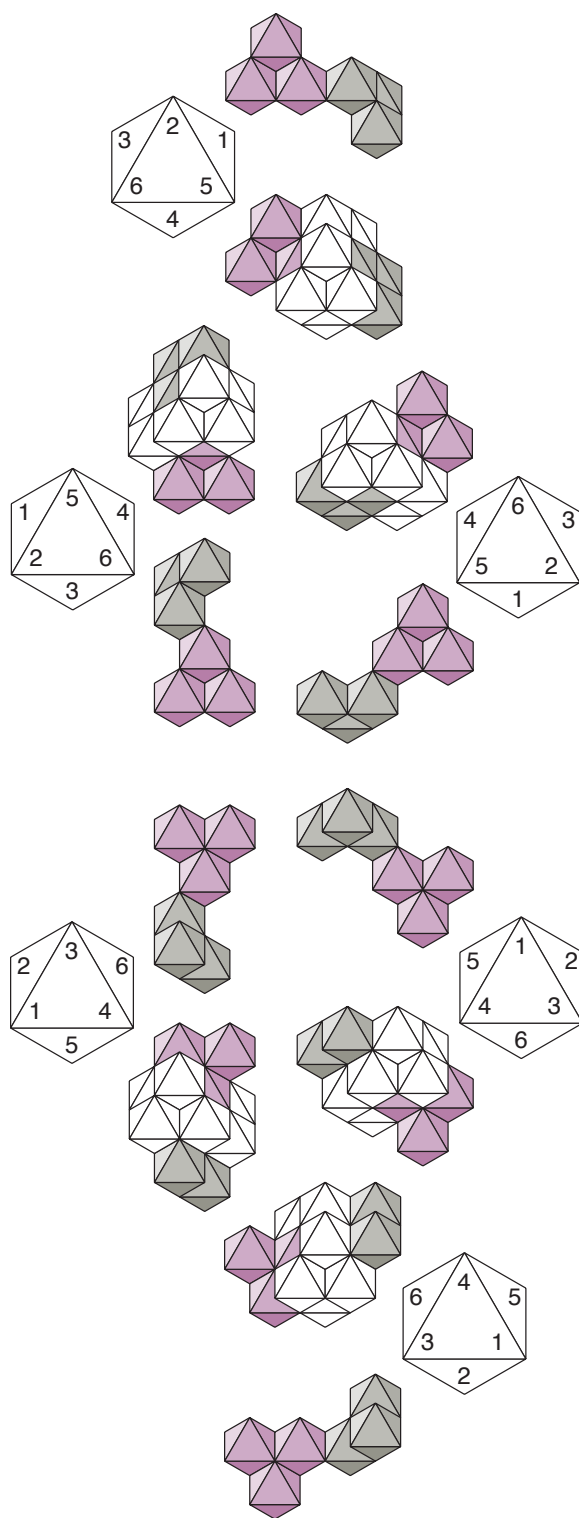




**Figure 12. Six orientations of the 32chn join unit viewed normally to the 456 and 123 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 456 face are at the top; the three views perpendicular to the 123 face are below.

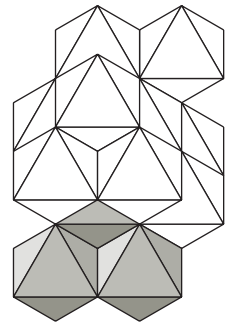
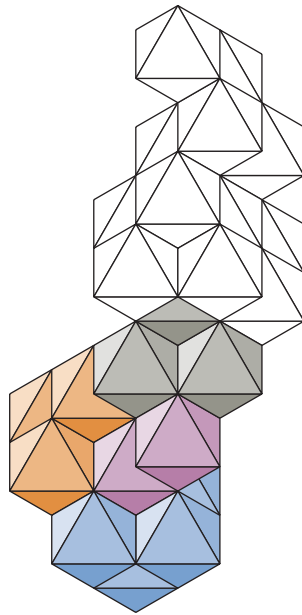


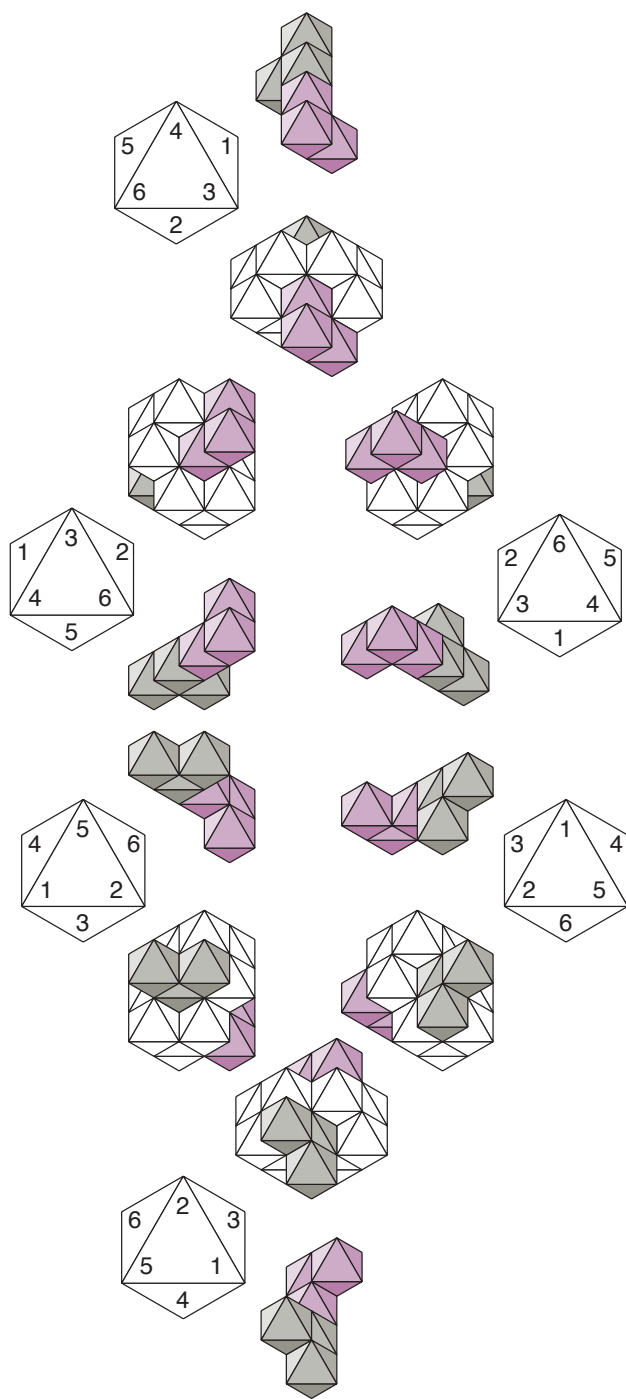
**Figure 13. Six orientations of the 32chn join unit viewed normally to the 623 and 541 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 623 face are at the top; the three views perpendicular to the 541 face are below.



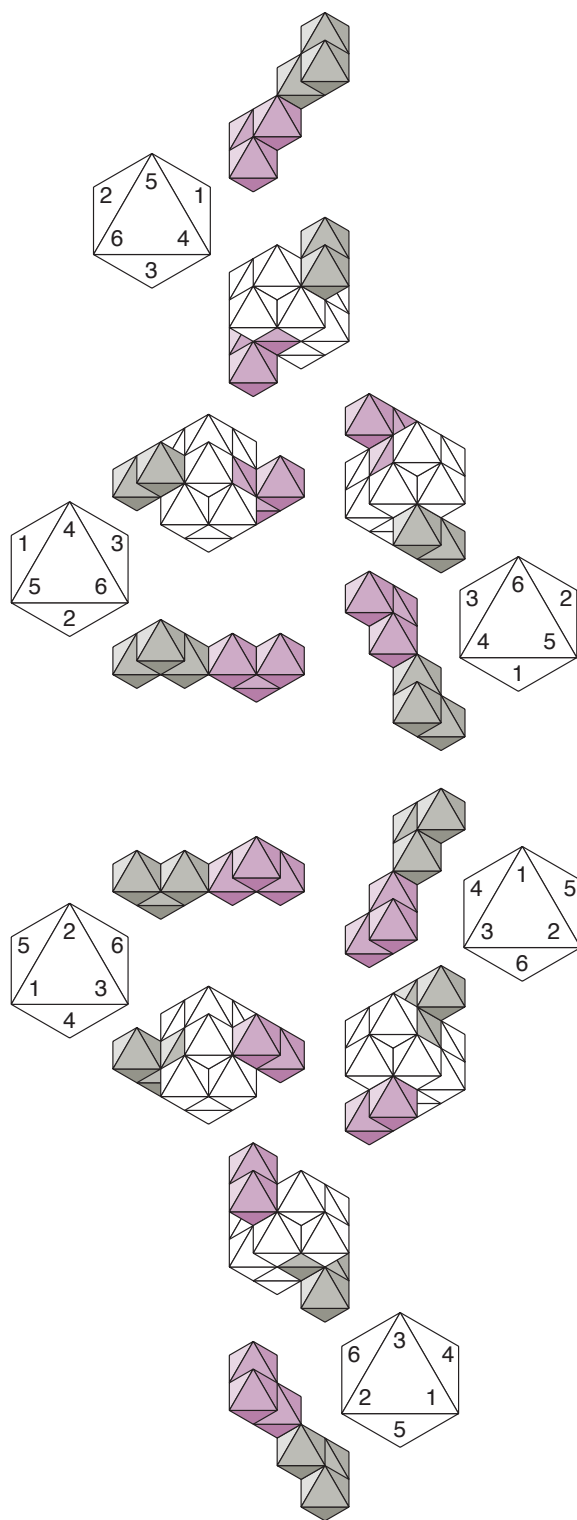
**Figure 14. Six orientations of the 32chn join unit viewed normally to the 652 and 431 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 652 face are at the top; the three views perpendicular to the 341 face are below.

beta90

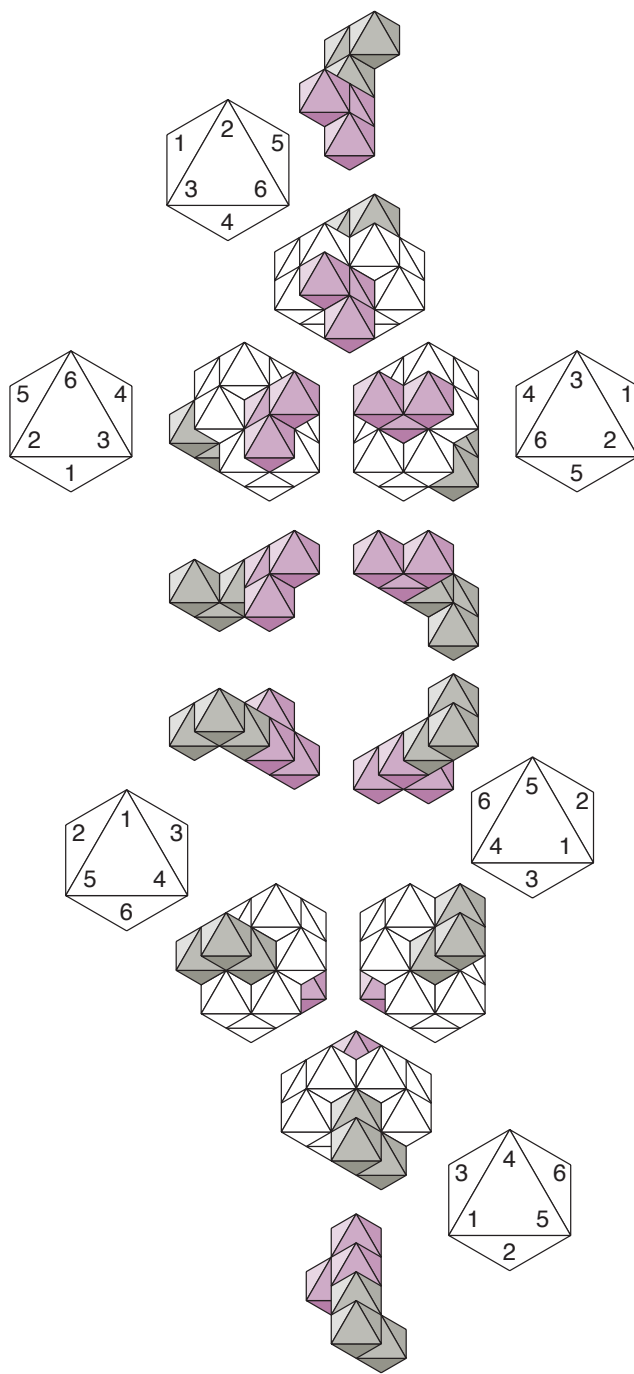




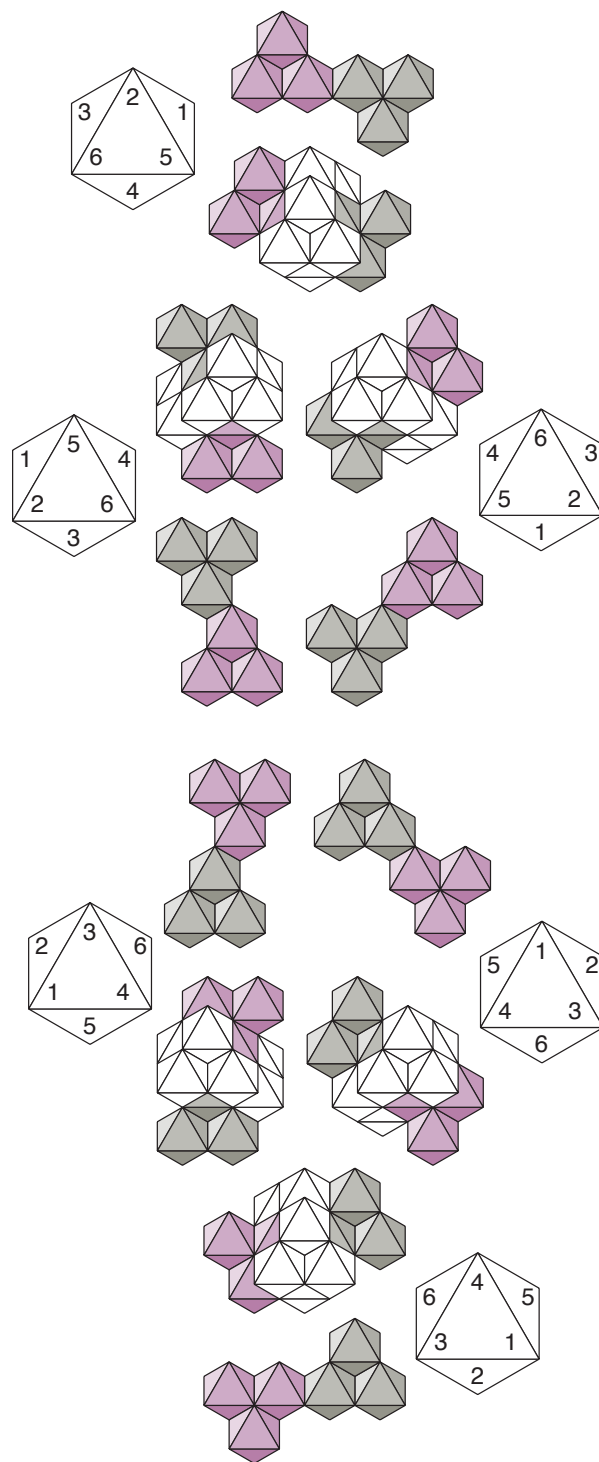
**Figure 15. Six orientations of the beta90 join unit viewed normally to the 346 and 125 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 346 face are at the top; the three views perpendicular to the 125 face are below.



**Figure 16. Six orientations of the beta90 join unit viewed normally to the 456 and 123 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 456 face are at the top; the three views perpendicular to the 123 face are below.



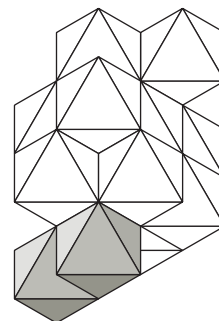
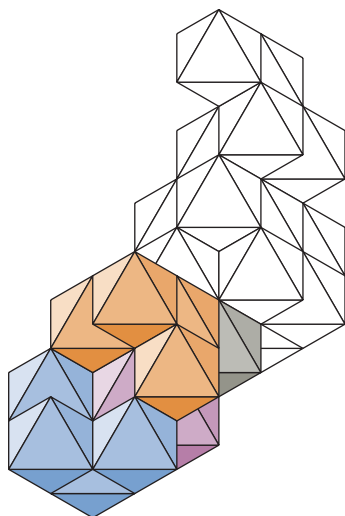
**Figure 17. Six orientations of the beta90 join unit viewed normally to the 623 and 541 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 623 face are at the top; the three views perpendicular to the 541 face are below.

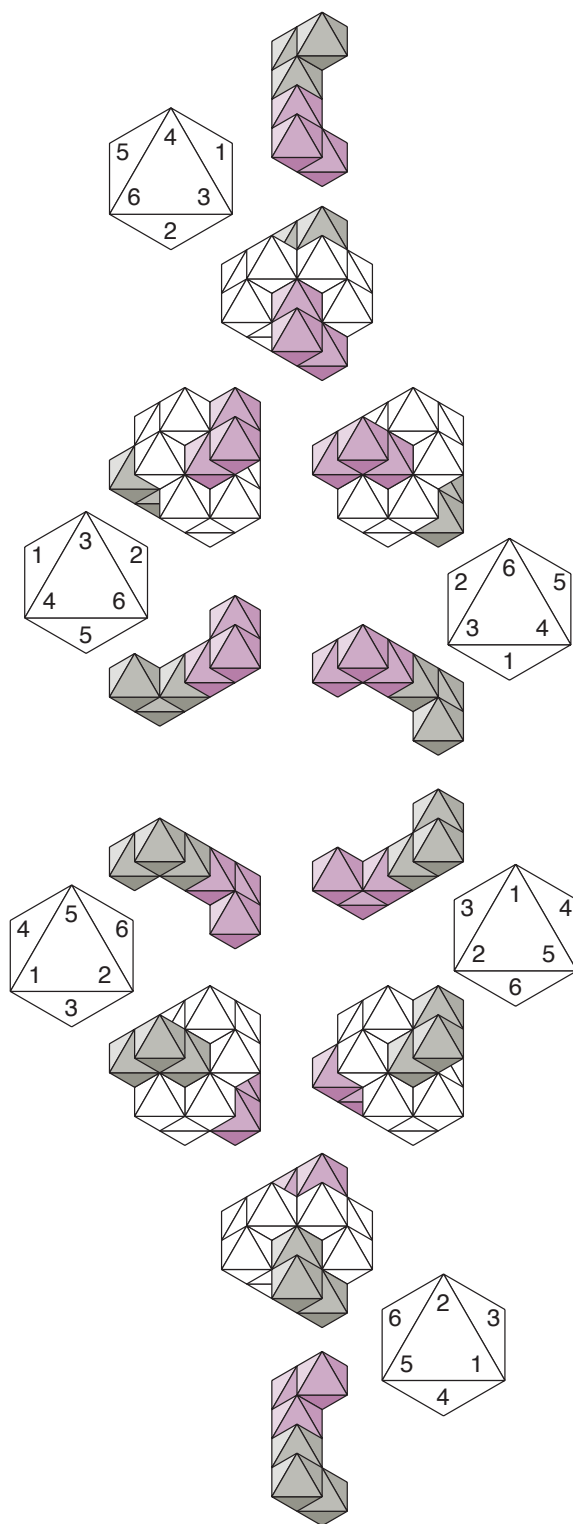


**Figure 18. Six orientations of the beta90 join unit viewed normally to the 652 and 431 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 652 face are at the top; the three views perpendicular to the 431 face are below.

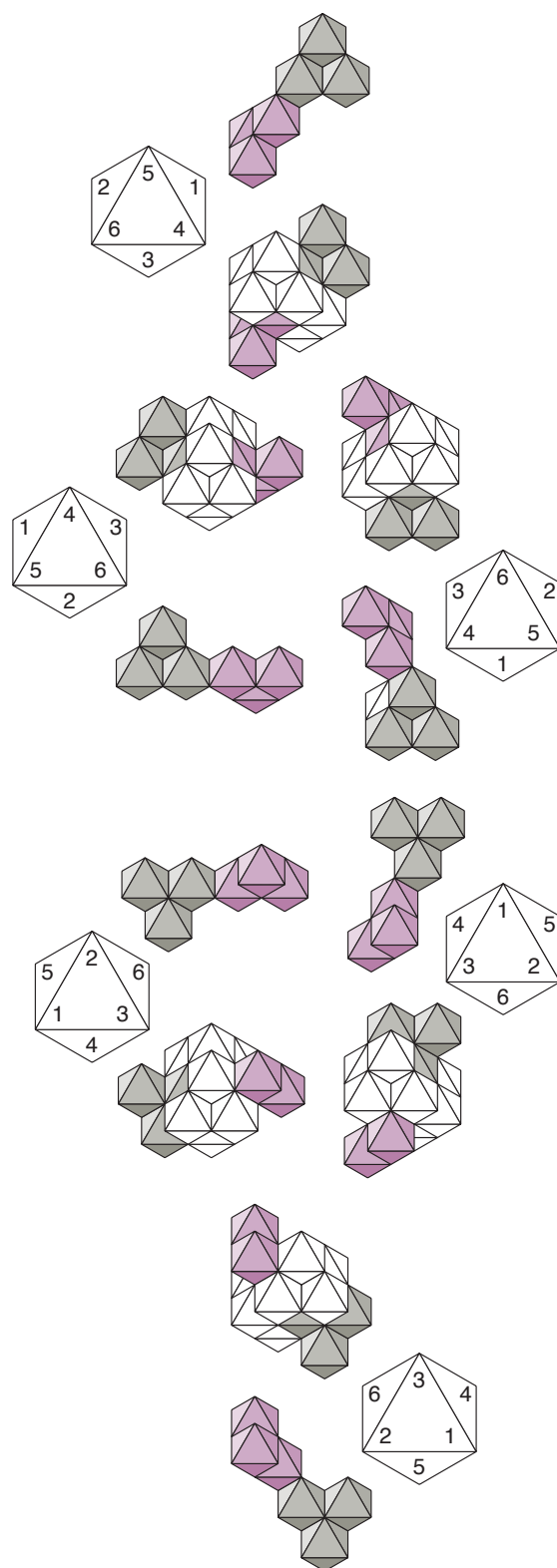


4-helix

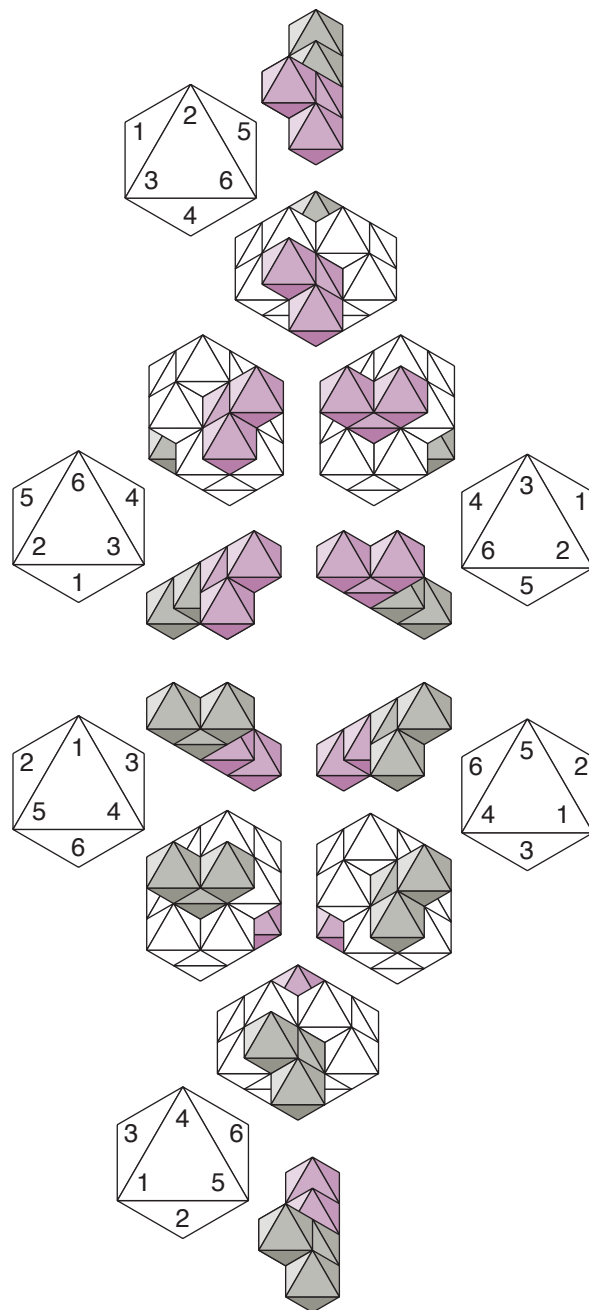




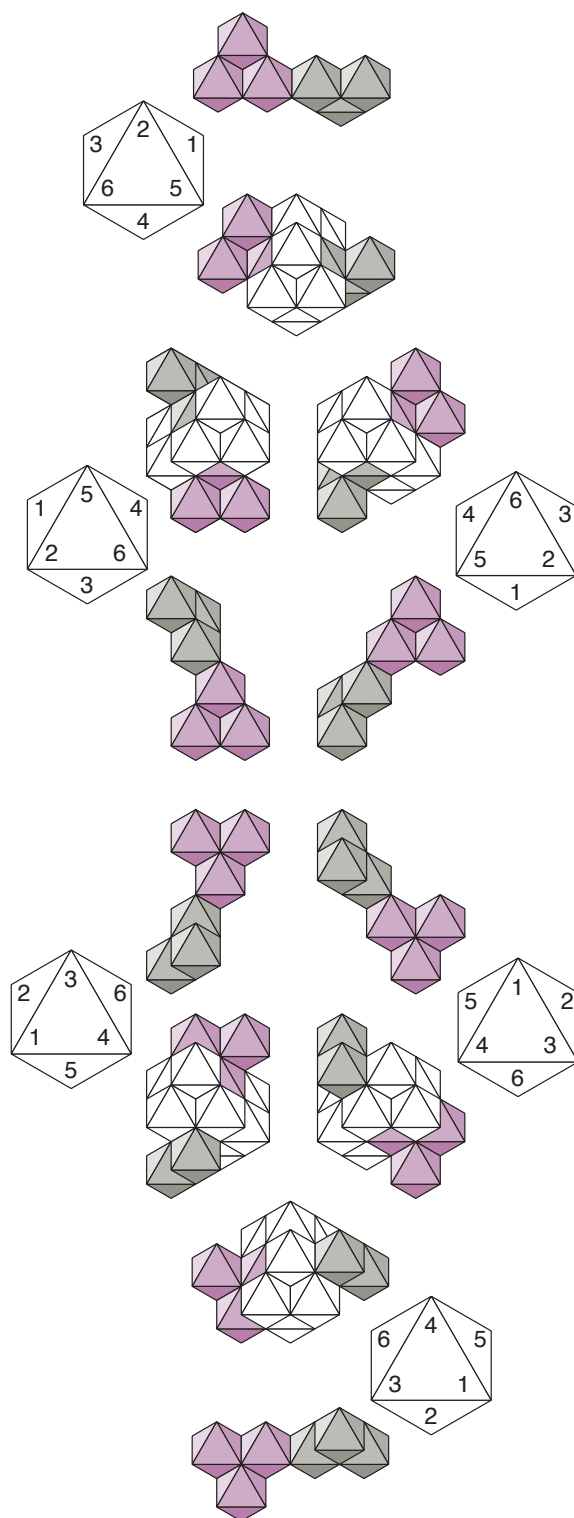
**Figure 19. Six orientations of the 4lix join unit viewed normally to the 346 and 125 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 346 face are at the top; the three views perpendicular to the 125 face are below.



**Figure 20. Six orientations of the 4lix join unit viewed normally to the 456 and 123 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 456 face are at the top; the three views perpendicular to the 123 face are below.

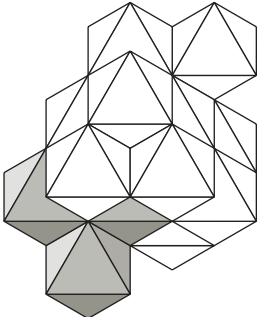
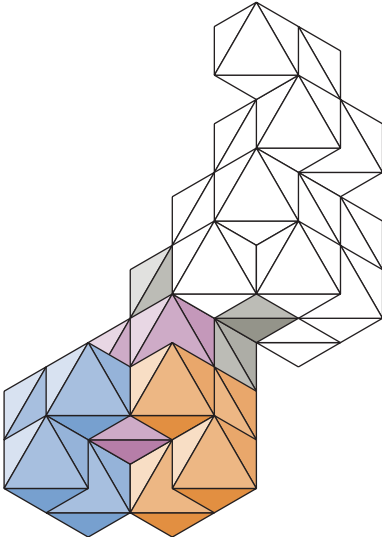


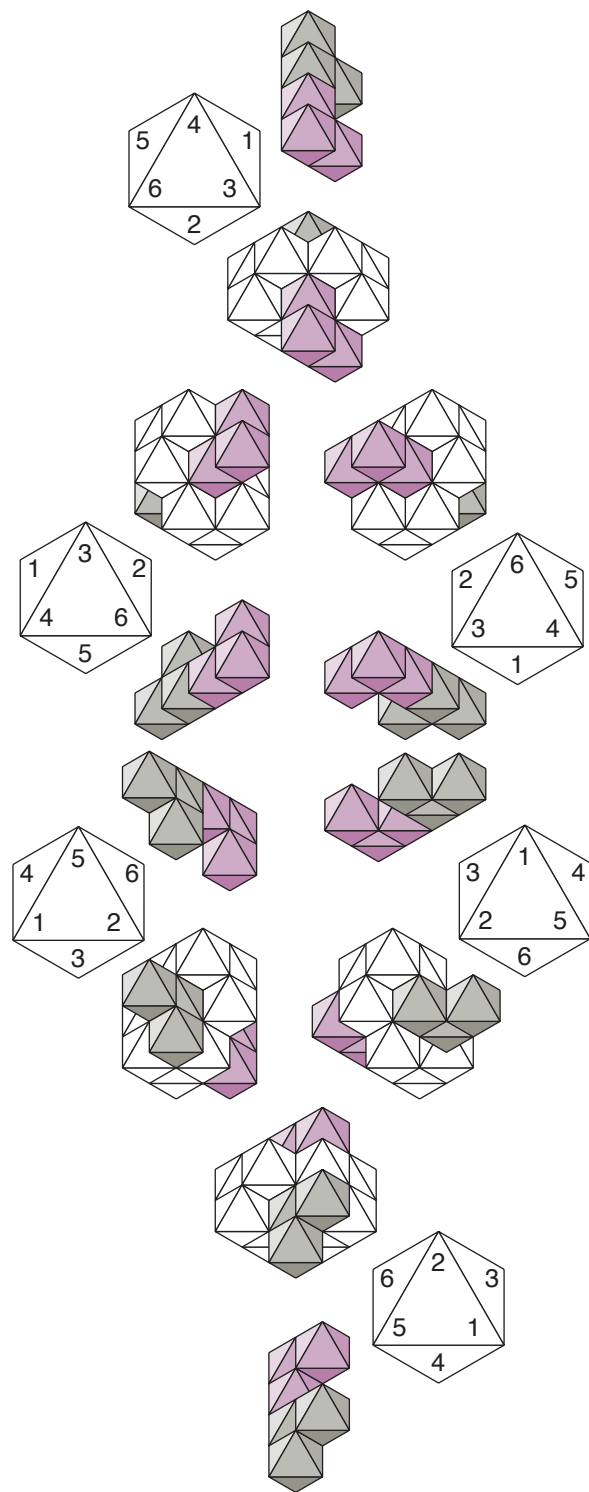
**Figure 21. Six orientations of the 4lix join unit viewed normally to the 623 and 541 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 623 face are at the top; the three views perpendicular to the 541 face are below.



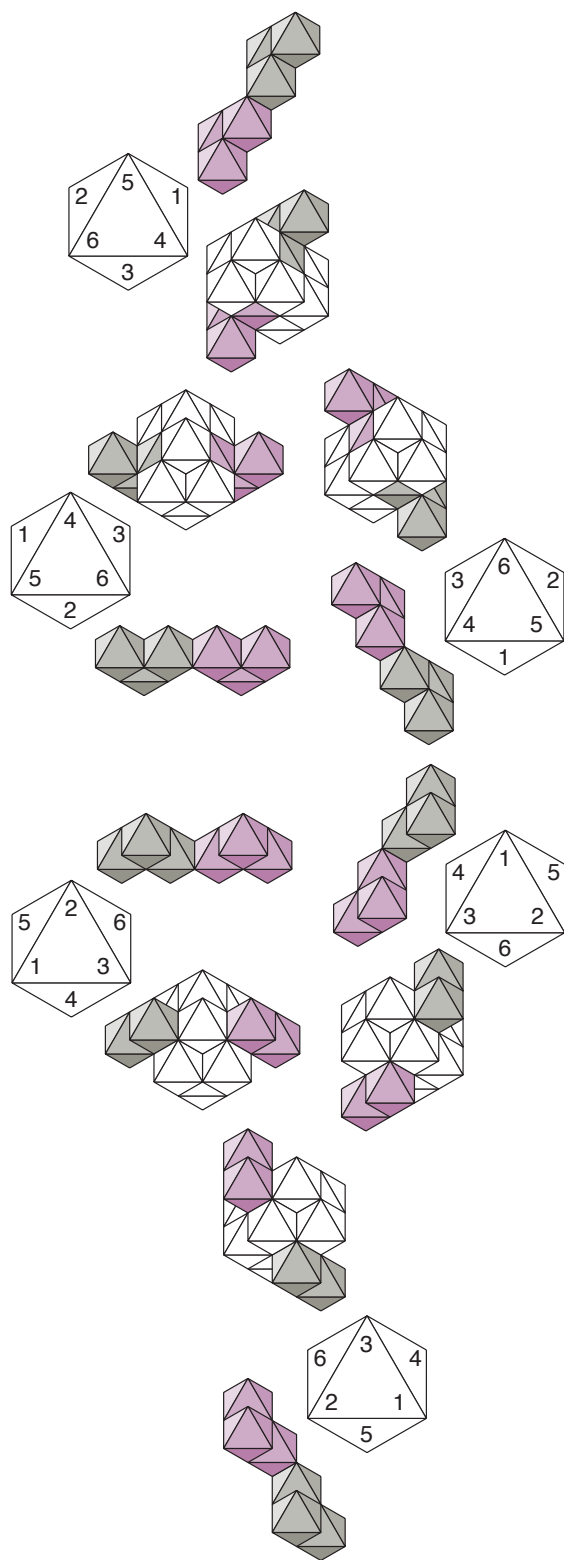
**Figure 22. Six orientations of the 4lix join unit viewed normally to the 652 and 431 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 652 face are at the top; the three views perpendicular to the 431 face are below.

epsilon



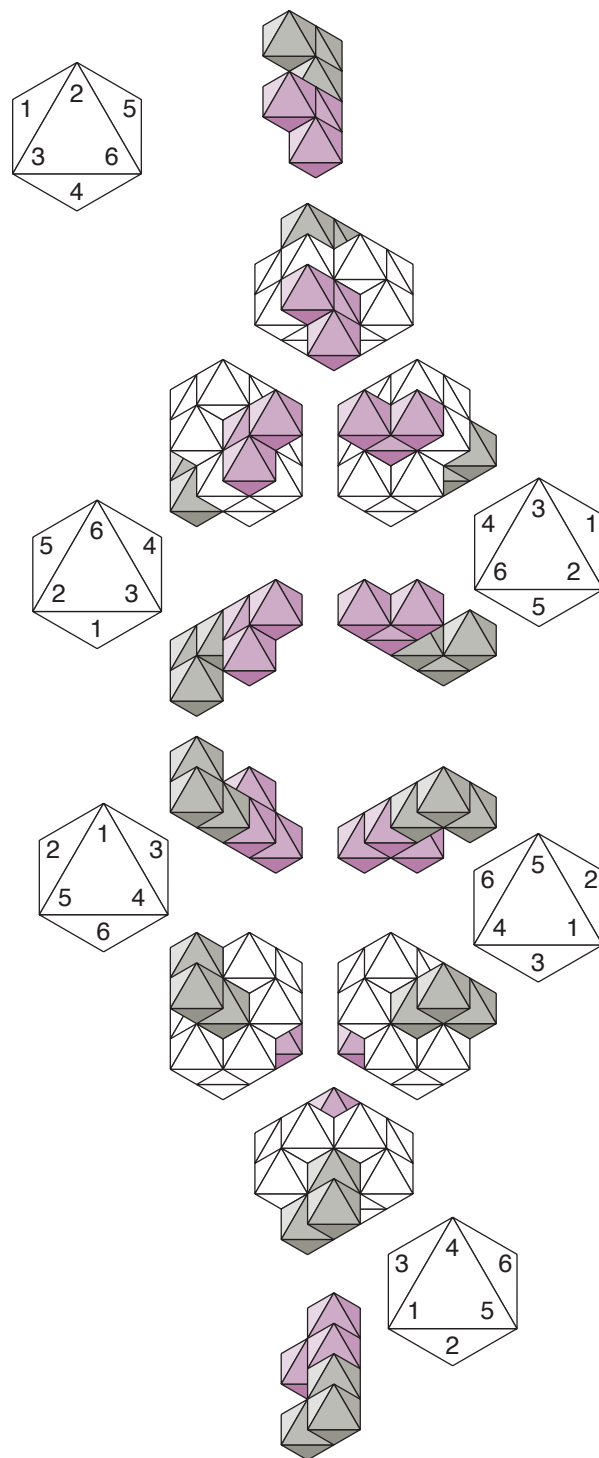


**Figure 23. Six orientations of the epsilon join unit viewed normally to the 346 and 125 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 346 face are at the top; the three views perpendicular to the 125 face are below.

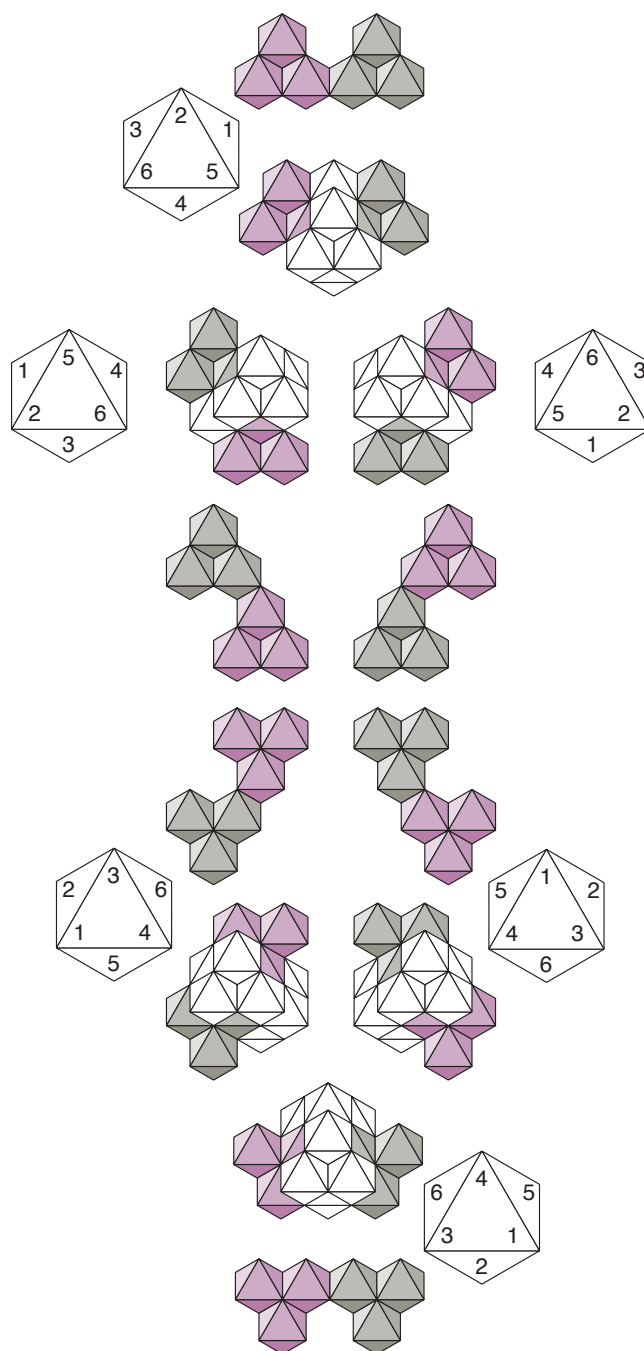


**Figure 24. Six orientations of the epsilon join unit viewed normally to the 456 and 123 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 456 face are at the top; the three views perpendicular to the 123 face are below.





**Figure 25. Six orientations of the epsilon join unit viewed normally to the 623 and 541 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 623 face are at the top; the three views perpendicular to the 541 face are below.



**Figure 26. Six orientations of the epsilon join unit viewed normally to the 652 and 431 faces**  
 Each orientation includes a depiction of the two C-atoms as a pair; and in the assembly which includes the NH<sub>2</sub>O group. The three views perpendicular to the 652 face are at the top; the three views perpendicular to the 431 face are below.