

Acene

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References

1. Robert William Whitby, octahedron1sted.pdf

Introduction

Acene is composed of CH₂-groups which have the same form as the N-atom.

Each CH₂ is joined by its H₂ to the H₂ of another CH₂. [See Figure 1.]

Each C-atom of a CH₂ pair is cleftly joined to a C-atom of an adjacent CH₂ pair in the same way as the C-atoms of the lauric chain of the lipid. [See Figure 2.]

The resulting assemblies can be characterised as a pair of parallel CH₂-strands that are joined by the triplet-pairings of their H₂-groups. [See Figures 3 and 4.]

The C₆-ring, fused or otherwise, has nothing at all to do with the acene.

The inter-acene join is shown in Figure 5. The acenes are attached along their entire lengths by an edgial join between each of the C-atom strands. Extending the crystal by additional acenes results in a planar crystal.

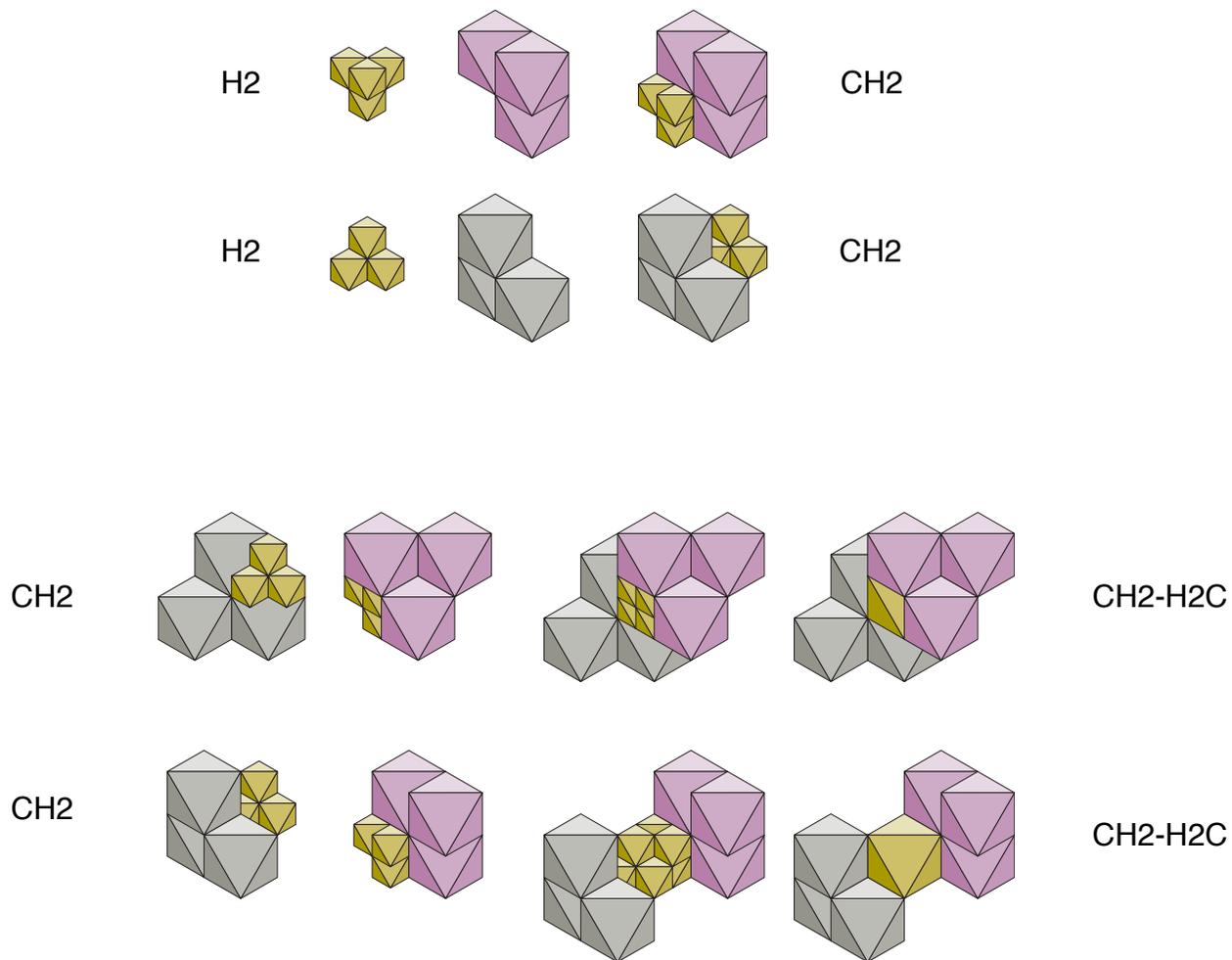


Figure 1. Formation of the CH₂-H₂C groups required to form the acene.

At the top of the figure, the formation of two of the CH₂ units are shown.

At the left of the third row, the remaining two CH₂ units that are required for the assembly are shown. They are followed by the CH₂-H₂C. The depiction of the CH₂-H₂C is simplified by replacing the six octas of the two H₂s with a single yellow octahedron.

The formation of the second CH₂-H₂C is shown in the bottom row.

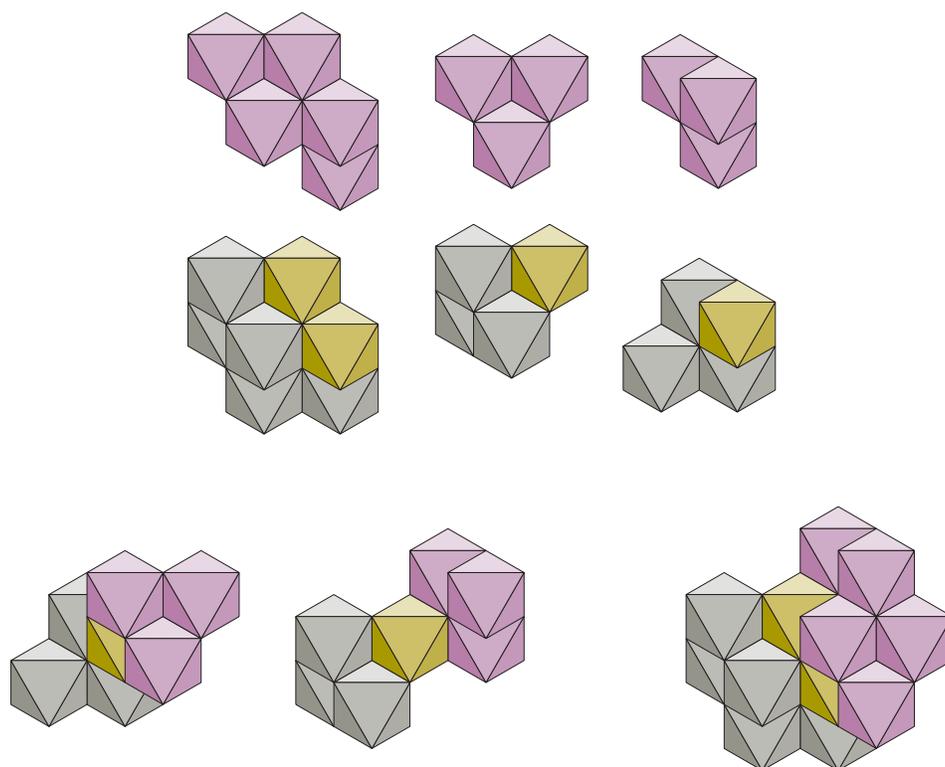


Figure 2. Assembling the acene unit.

In the top row, the cleft join of the C-atoms of the red strand are shown.

In the second row, the cleft join of the C-atoms of the gray strand are shown. The yellow octa of the combined H₂-units is attached to the gray C-atoms.

In the bottom row, the two CH₂-H₂C pairs are assembled to form the acene.

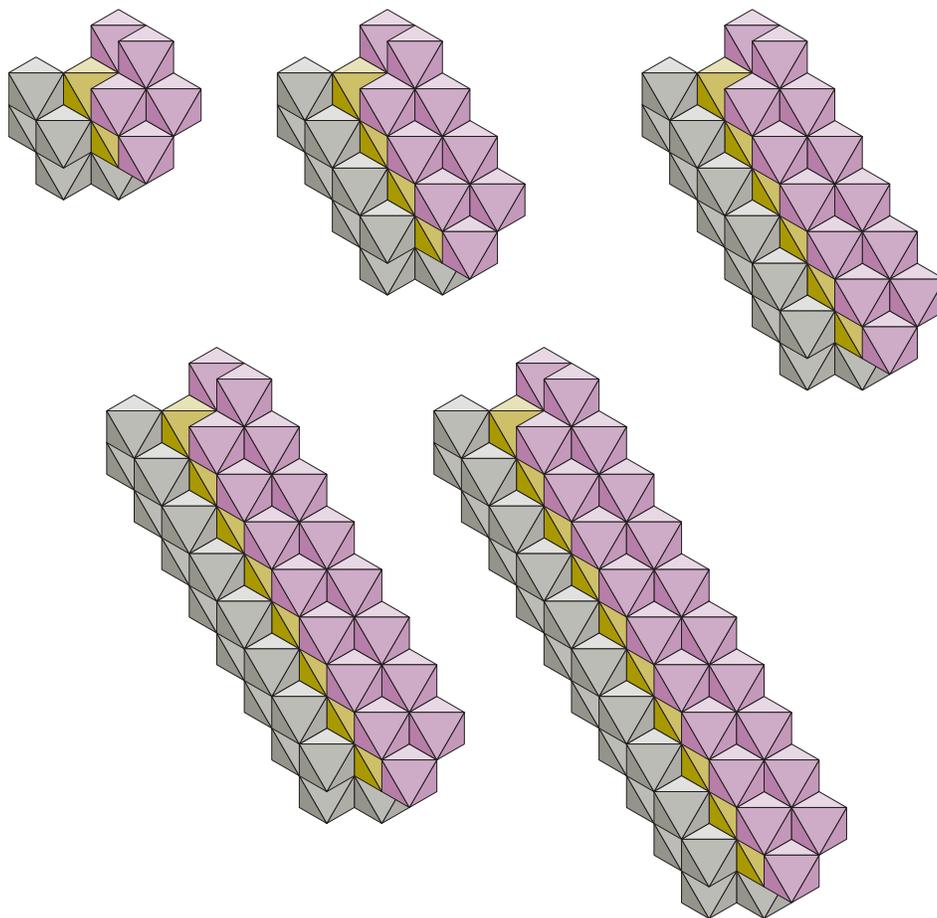


Figure 3. Assemblies of acenes.

The acene unit is shown at the left of the top row. A pair of acenes is next, and a three acene assembly is on the right.

In the bottom row, a four unit assembly on the left is followed by a five unit assembly on the right.

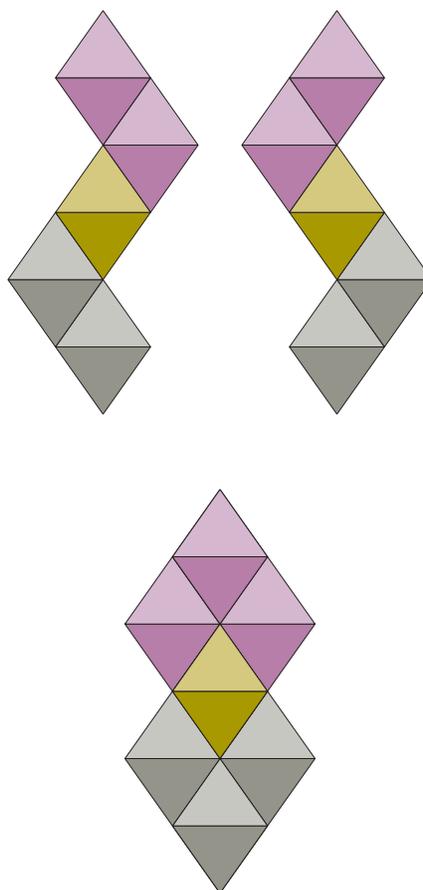


Figure 4. End view of an acene assembly of any length.
At the top, each of the CH₂-H₂C pairs is shown.
At the bottom, the CH₂-H₂C pairs are cleftly joined.
That is all there is to see in the orthographic projection of an acene, whatever its length.

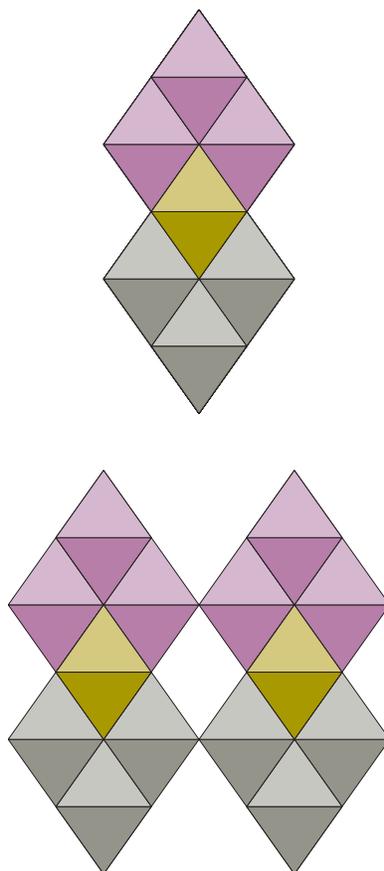


Figure 5. Crystal formation of the acenes.

At the top, the end view of the acene assembly.

At the bottom, the assemblies are joined in crystalline form. They are held together along their entire length by the edge-to-edge join between the carbon atoms of the two strands.