

**Organic chemistry** is chemistry of carbon-containing compounds

Organic compounds: contains C  
Inorganic compounds: does not contain C (usually)  
————— separate from —————

Natural compounds: made in nature

Synthetic compounds: made in laboratory

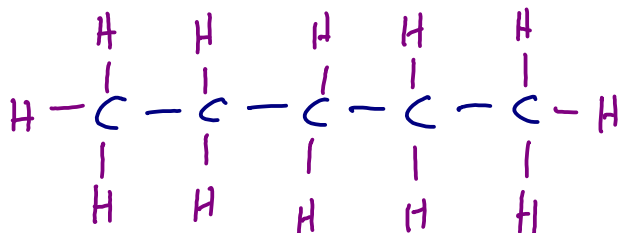
**Hydrocarbons** contain only hydrogen and carbon, and can be drawn several different ways:

1. Carbon backbone / carbon skeleton ★ C makes 4 bonds

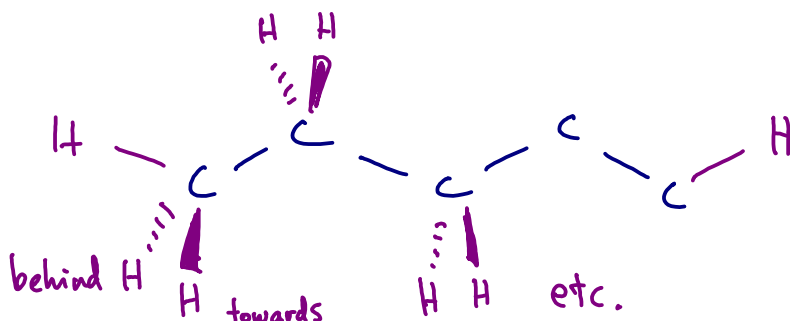


not a finished structure

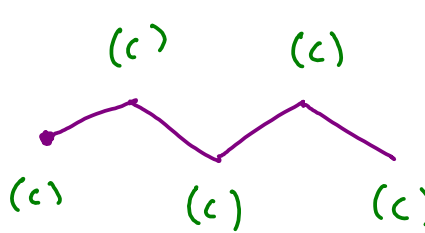
2. Structural formula (flat Lewis structure)



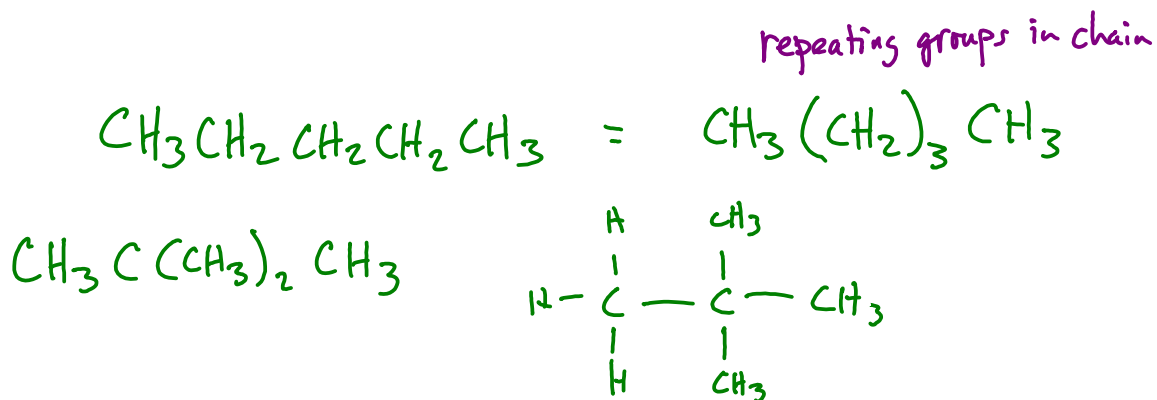
3. 3-dimensional structure



## Drawing hydrocarbons

4. Line structure C at ends & joints of lines  
C's are implied  
H's are implied
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- A zigzag line structure representing pentane. The vertices and ends of the lines are labeled with '(c)' in green, indicating that carbon atoms are implied at these positions. There are five such labels: one at the left end, one at each of the two interior vertices, and one at the right end.

5. Condensed formula (symbols and subscripts, but shows some structure)



6. Molecular formula (just a count of atoms - no structural information)



One molecular formula may have multiple isomers