

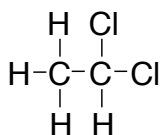
Chemguide – questions

DRAWING ORGANIC STRUCTURES

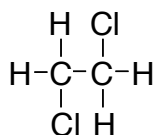
1. Using propane as an example, write formulae or draw diagrams as appropriate to show what is meant by
- a molecular formula
 - a structural formula (show the difference between a fully displayed and the more usual simplified version)
 - a skeletal formula

(Don't know what propane is? Look it up!)

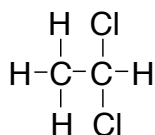
2. A compound has the molecular formula $C_2H_4Cl_2$. Look carefully at the following displayed formulae. How many different compounds do they represent?



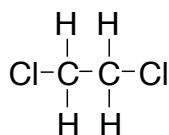
A



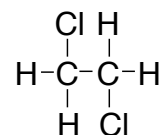
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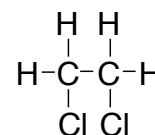
C



D

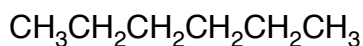


E

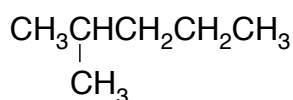


F

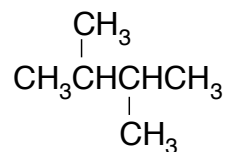
3. Which of these structures are the same?



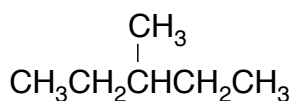
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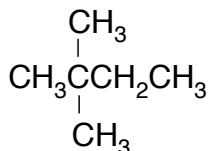
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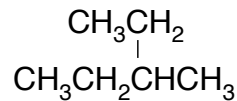
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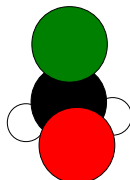
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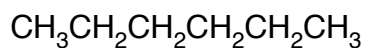
4. Draw the following molecule using conventional bond notation to show its 3-D shape.

Use B (black), R (red), G (green) and W (white) for the symbols for the various atoms or groups.

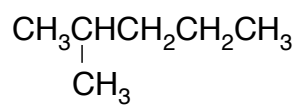


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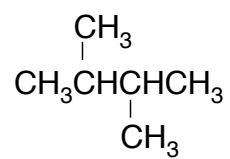
5. Draw skeletal formulae for the following compounds:



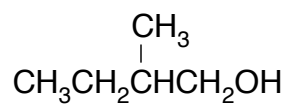
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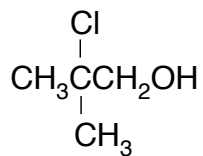
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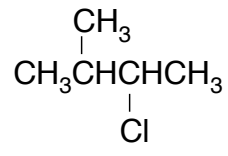
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6. Translate these skeletal formulae into structural formulae similar to the ones in Q5.

