

Chem!stry

Name: ()

Class:

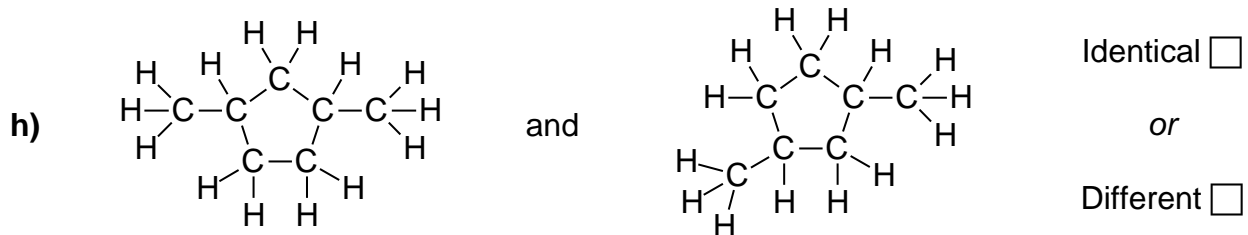
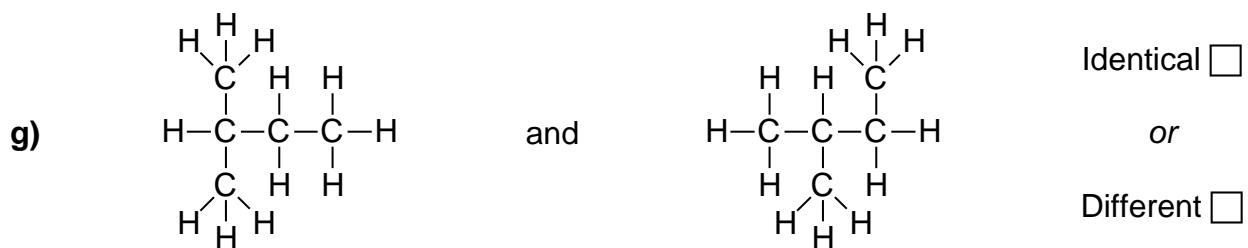
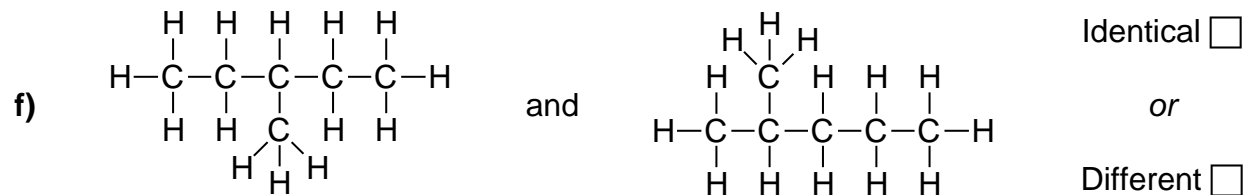
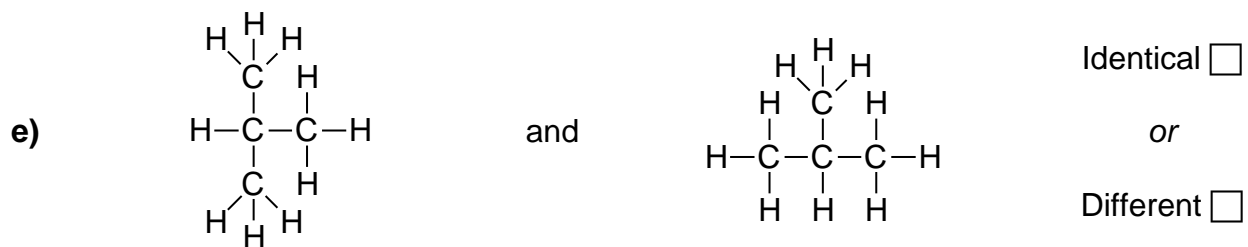
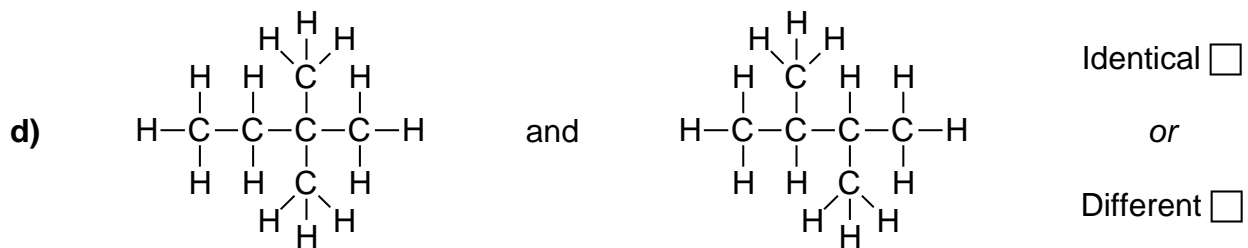
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Spot the Difference...

The objective of this activity is to help you recognise whether two organic compounds are identical or different from each other. Organic compounds can have large, complex structures. Because of this, it is possible to draw the same compound in several different ways. This is especially problematic when you are asked to draw the possible *isomers* of a certain molecular formula, for example, “*Draw all the possible isomers of C₆H₁₄.*” While trying to solve this problem, some students will draw the same compound, but in two different ways, therefore thinking that they already have two different answers!

- Decide whether each of the following pairs of compounds are identical or different:

<p>a)</p> $\begin{array}{cccc} & \text{H} & \text{H} & \text{H} & \text{H} \\ & & & & \\ \text{H} & -\text{C} & -\text{C} & -\text{C} & -\text{C}-\text{H} \\ & & & & \\ & \text{H} & \text{H} & \text{H} & \text{H} \end{array}$	<p>and</p>	$\begin{array}{cccc} & \text{H} & \text{H} & \text{H} \\ & & & \\ \text{H} & -\text{C} & -\text{C} & -\text{C}-\text{H} \\ & & & \\ & \text{H} & \text{H} & \text{C} \\ & & & \\ & & & \text{H} \\ & & & \\ & & & \text{H} \end{array}$	<p>Identical <input type="checkbox"/></p> <p>or</p> <p>Different <input type="checkbox"/></p>
<p>b)</p> $\begin{array}{cccc} & \text{H} & \text{H} & & \\ & & & & \\ & \text{H} & \text{C} & \text{H} & \text{H} \\ & & & & \\ \text{H} & -\text{C} & -\text{C} & -\text{C} & -\text{C}-\text{H} \\ & & & & \\ & \text{H} & \text{H} & \text{H} & \text{H} \end{array}$	<p>and</p>	$\begin{array}{cccc} & \text{H} & \text{H} & \text{H} & \text{H} \\ & & & & \\ \text{H} & -\text{C} & -\text{C} & -\text{C} & -\text{C}-\text{H} \\ & & & & \\ & \text{H} & \text{H} & \text{C} & \text{H} \\ & & & & \\ & & & \text{H} & \text{H} \end{array}$	<p>Identical <input type="checkbox"/></p> <p>or</p> <p>Different <input type="checkbox"/></p>
<p>c)</p> $\begin{array}{cccc} & & & \text{H} & \text{H} & \text{H} \\ & & & & & \\ & & & \text{C} & & \\ & & & & & \\ \text{H} & -\text{C} & -\text{C} & -\text{C} & -\text{C} & -\text{C}-\text{H} \\ & & & & & \\ & \text{H} & \text{H} & \text{H} & \text{H} & \text{H} \end{array}$	<p>and</p>	$\begin{array}{cccc} & \text{H} & \text{H} & & & \\ & & & & & \\ & \text{C} & \text{H} & \text{H} & \text{H} & \\ & & & & & \\ \text{H} & -\text{C} & -\text{C} & -\text{C} & -\text{C} & -\text{H} \\ & & & & & \\ & \text{C} & \text{H} & \text{H} & \text{H} & \\ & & & & & \\ & \text{H} & \text{H} & & & \end{array}$	<p>Identical <input type="checkbox"/></p> <p>or</p> <p>Different <input type="checkbox"/></p>



- Scan the QR code given below to view the answers to this assignment.



http://www.chemist.sg/organic_chem/worksheets/isomerism/identical_different_ans.pdf