1. Below are some statements about carboxylic acids.

However, there are some mistakes.

Find as many as you can, then correct them.

🗴

1. A carboxylic acid contains the -OH functional group.

Answer: should be -COOH instead of -OH functional group.

1. The names of carboxylic acids all end in –oic acid.
2. The first part of the name tells you how many hydrogen atoms are present in the molecule.

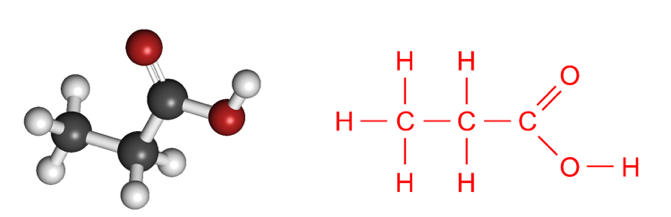
🗴

Answer: should be how many carbon atoms, not hydrogen atoms.

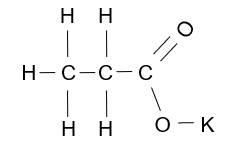
1. The letters –an– link the prefix to the –oic acid ending.

|  |  |
| --- | --- |
| **Number of carbon atoms** | **Prefix** |
| 1 | Meth-  🗴 |
| 2 | Prop-  🗴 |
| 3 | Eth- |
| 4 | But- |

Answer: Eth- and Prop- should be the other way around.

1. The molecule below is called ethanoic acid.

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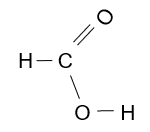
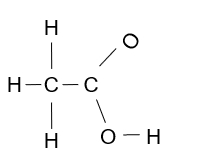


Answer: the molecule is called propanoic acid.

1. George is asked by his teacher to draw out the structure of ethanoic acid.

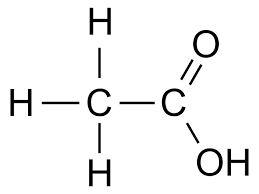
He gives four possible structures, but only one is correct.

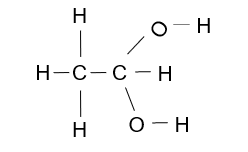
Which one is correct?



**B**

**A**





**C**

**D**

Answer: molecule C.

1. Alan and Michelle carry out some experiments using ethanoic acid, and test for any gases formed.

The chemical formulae of the substances added are in the left-hand boxes.

Their observations are on the right-hand side.

Draw straight lines to link the substance with the correct gas test.

**Formula of substance Observation**

**being added**

Mg

A gas forms that turns limewater milky

Na2CO3

No gas forms

NaOH

A gas that forms a squeaky pop with a lighted splint

1. This question is about the acidity of ethanoic acid solution.

Complete the spaces.

1. Carboxylic acids dissolve in water to produce a weakly acidic solution.
2. When they dissolve they partially or slightly ionise/dissociate to produce H+ ions.
3. Universal indicator turns yellow-orange when added to a solution of ethanoic acid.
4. The pH of a solution of ethanoic acid is normally about 3–6.
5. The equation to show ethanoic acid’s reaction in water is:

CH3COOH ⇌ CH3COO– + H+