

11.2 Naming organic compounds

Name: _____ Class: _____ Date: _____

Total: 8 marks

KEY WORDS ethanoic acid 乙酸 • ethanol 乙醇 • naming organic compounds 有机物命名 • ethene 乙烯
 • structural isomers 同分异构体

Objective

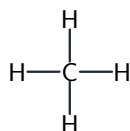
Build the skills to answer exam questions on **naming organic compounds** 有机物命名 — using the ending (family) and the stem (number of carbons).

You must be able to:

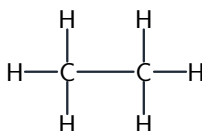
- use the ending to identify the family (-ane, -ene, -ol, -oic acid)
- use the stem for the number of carbons (meth-, eth-, prop-, but-)
- name simple compounds and use position numbers

1 Worked examples

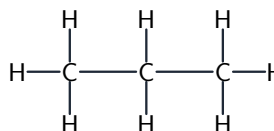
■ Stems and endings



methane
CH₄



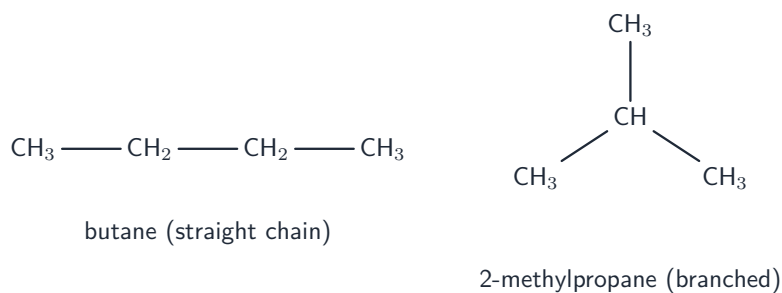
ethane
C₂H₆



propane
C₃H₈

each step adds a CH₂ unit general formula C_nH_{2n+2}

Stem = carbons (meth-1, eth-2, prop-3, but-4); ending = family



both have the formula C_4H_{10} : same formula,
different structure (structural isomers)

Naming distinguishes structural isomers

Ending	Family
-ane	alkane
-ene	alkene
-ol	alcohol
-oic acid	carboxylic acid

2 Practice

2.1 State the family of a compound whose name ends in -ol. [1]

2.2 State how many carbon atoms 'prop-' means. [1]

3 Exam-style questions

3.1 Which compound is an alkene? [1]

- A ethane
- B ethene
- C ethanol
- D ethanoic acid

3.2 Name each compound from its description: [3]

(a) a 2-carbon alcohol

(b) a 1-carbon alkane

(c) a 2-carbon carboxylic acid

3.3 Explain why both but-1-ene and but-2-ene need a number in the name. [2]

Solutions

2.1 an alcohol.

2.2 three.

3.1 B. The ending -ene shows ethene is an alkene.

3.2 (a) ethanol

(b) methane

(c) ethanoic acid.

3.3 the number shows the position of the C=C double bond; the double bond can be in different places along the chain, giving different compounds.