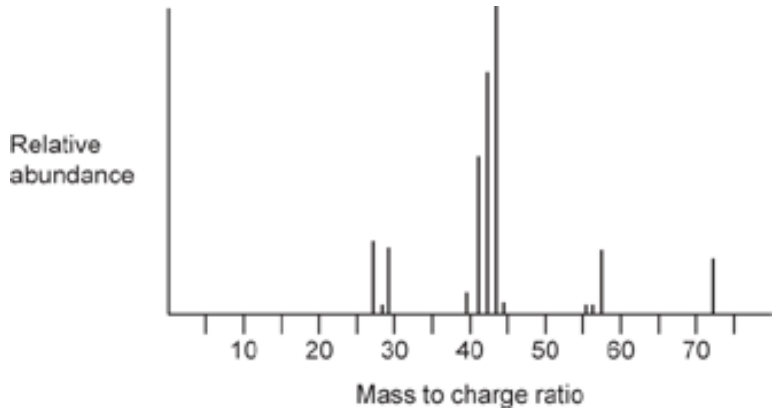
1. Which carbon compound produces this mass spectrum?

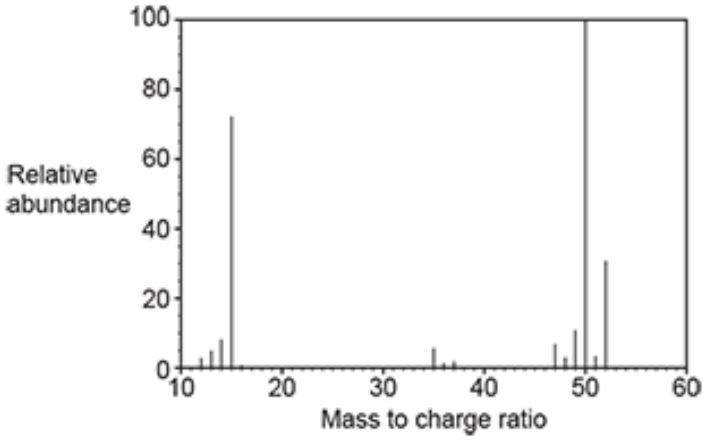


Relative atomic mass (A_r): C = 12.0 H = 1.0

A C_2H_4
B C_3H_8
C C_4H_8
D C_5H_{12}

Your answer ☐ **[1]**

2(a). The diagram shows the mass spectrum for a compound containing chlorine.



State the **relative molecular mass** of this compound.

_____ **[1]**

(b). Instrumental methods of analysis, such as mass spectrometry, have advantages over simple chemical methods of analysis.

State **two** advantages of instrumental methods of analysis.

1 ---

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2 ---

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[2]

3.

Sodium chloride, NaC*l*, is made in a student's reaction.

Sodium chloride contains the cation Na^+ and the anion Cl^-.

Describe the tests, and their positive results, that the student can do to prove that sodium chloride is made in the reaction.

i. Cation Na^+

Test _____

_____

Result _____

_____

[2]

ii. Anion Cl^-

Test _____

_____

Result _____

_____

[2]

4. Which test identifies sulfate ions?

A A flame test
B Adding a few drops of barium chloride solution
C Adding a few drops of silver nitrate solution
D Adding a few drops of sodium hydroxide solution

Your answer ☐ **[1]**

END OF QUESTION PAPER