

Paper Reference(s) 1CH0/2H
Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Chemistry
PAPER 2
Higher Tier

Tuesday 13 June 2023 – Morning

Diagram Booklet

In the boxes below, write your name, centre number and candidate number.

| | | | | | |
|------------------|--|--|--|--|--|
| Surname | | | | | |
| Other names | | | | | |
| Centre Number | | | | | |
| Candidate Number | | | | | |

INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

**THIS DIAGRAM BOOKLET *MUST* BE RETURNED WITH THE
QUESTION PAPER AT THE END OF THE EXAMINATION.**

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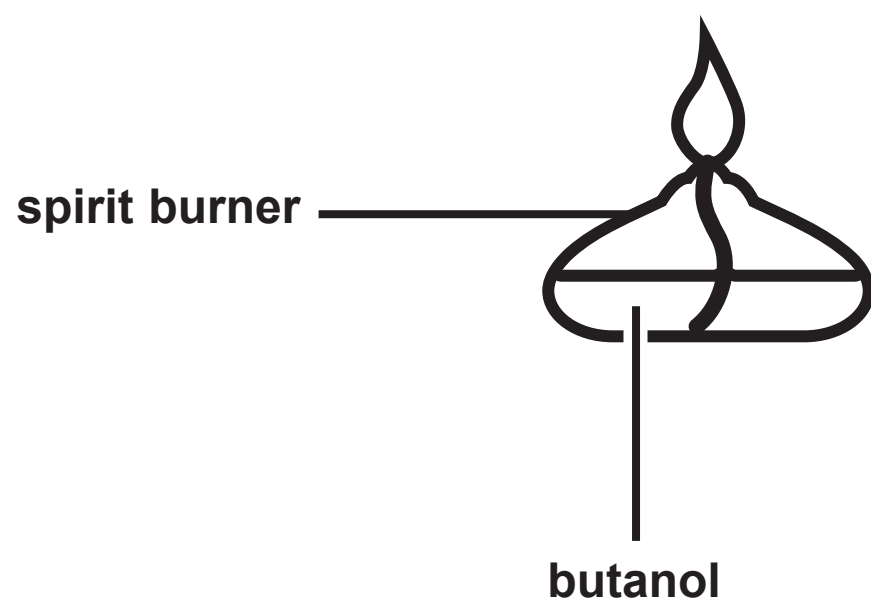
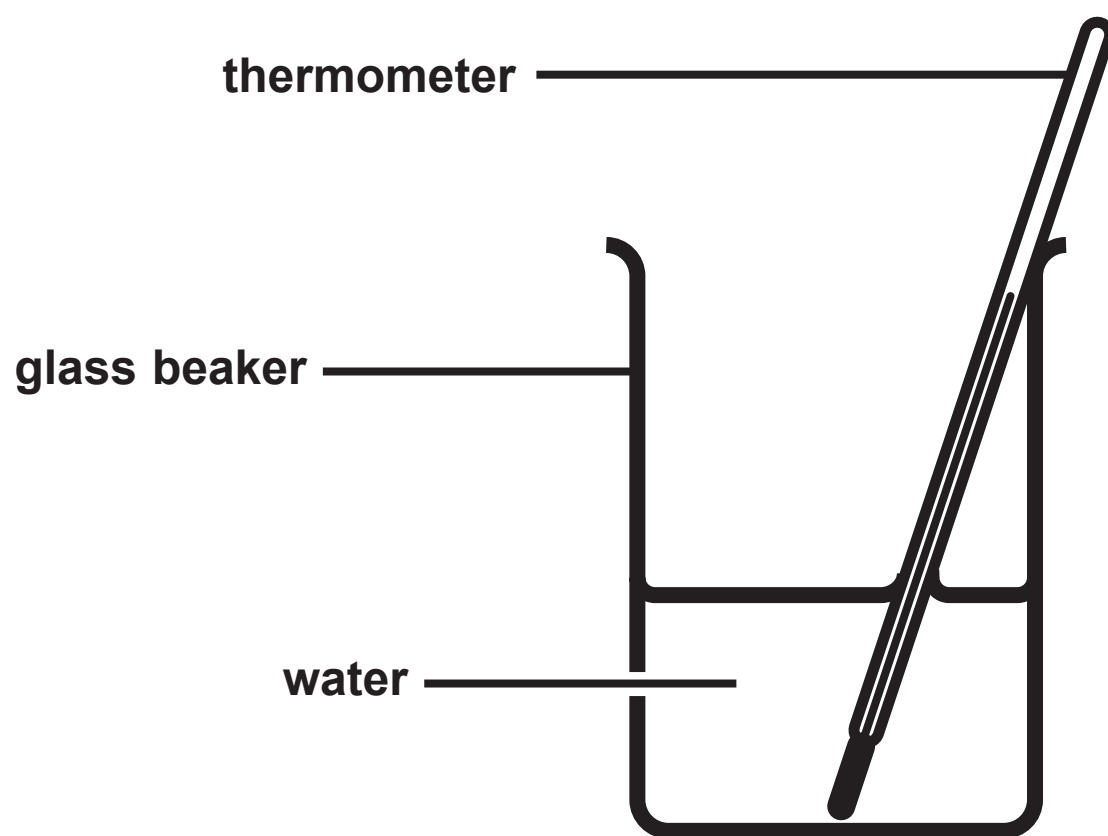
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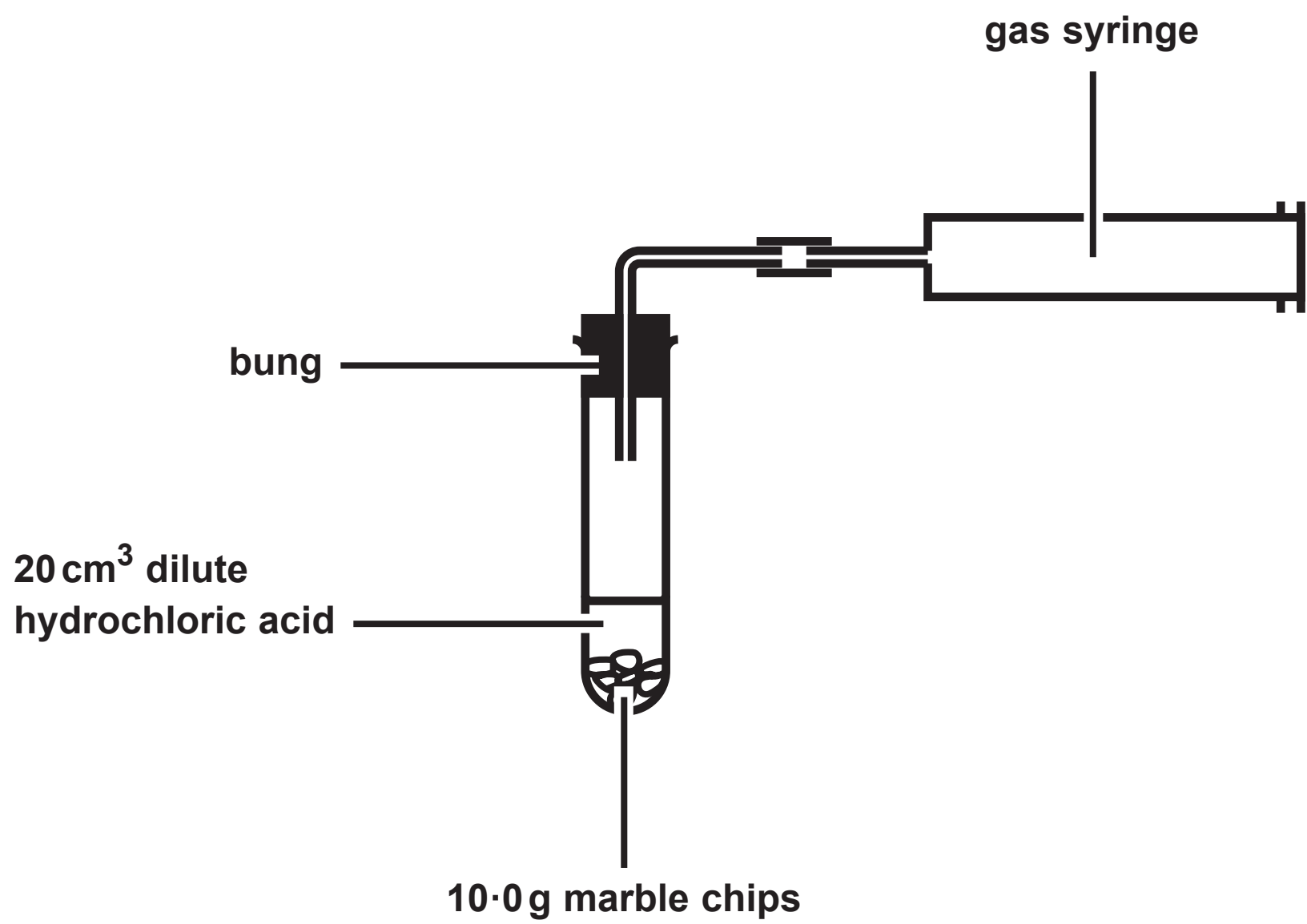
Question 1

FIGURE 1



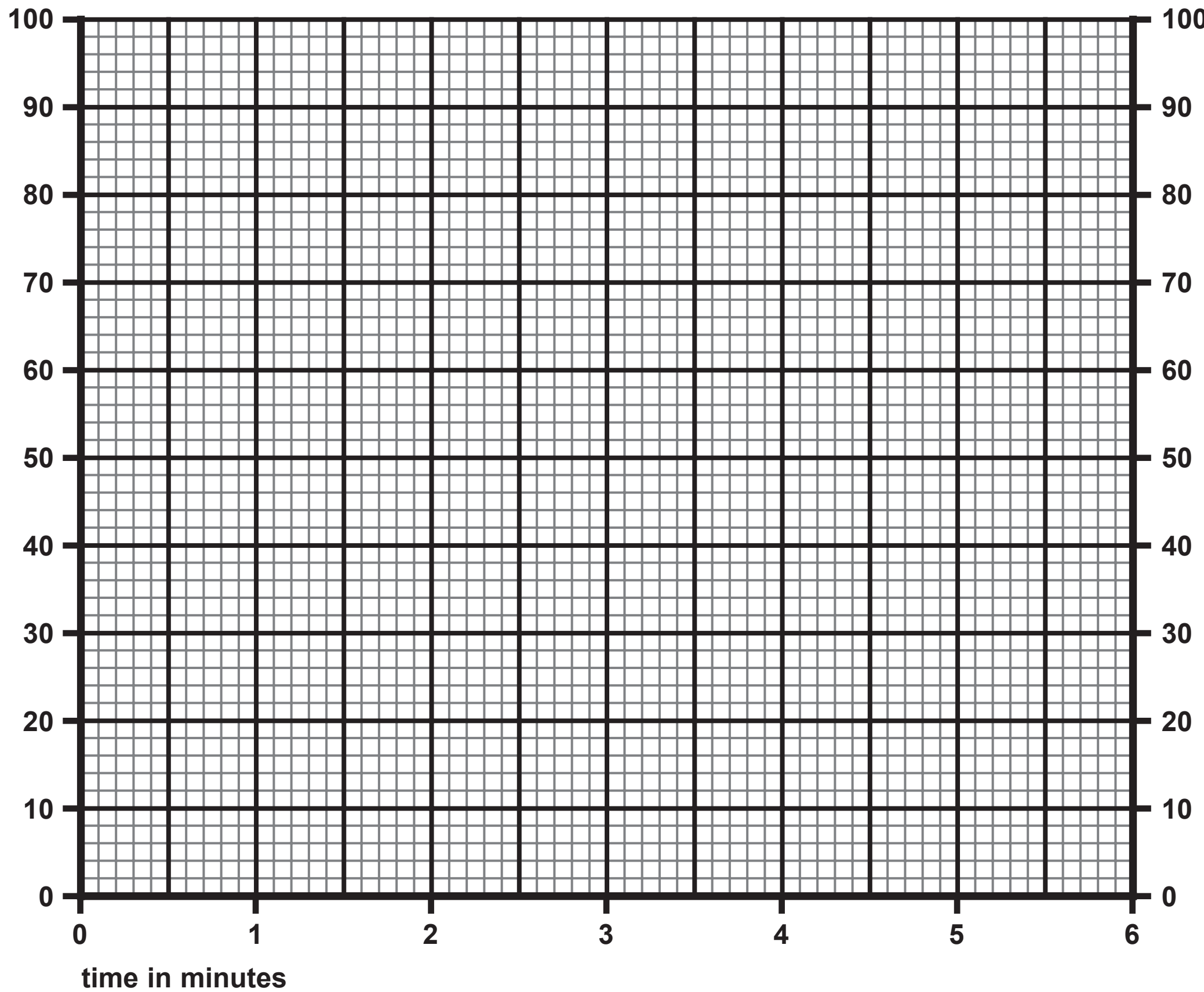
Question 2

FIGURE 3



Question 2(a) and 2(c)

volume of gas
in cm³



Question 2(b)

FIGURE 5

| time interval | 0 to 1 minute | 1 to 2 minutes | 2 to 3 minutes | 3 to 4 minutes | 4 to 5 minutes |
|--|------------------|-------------------|-------------------|-------------------|-------------------|
| rate of reaction in cm ³ min ⁻¹ | 52 | 26 | | 6 | 3 |

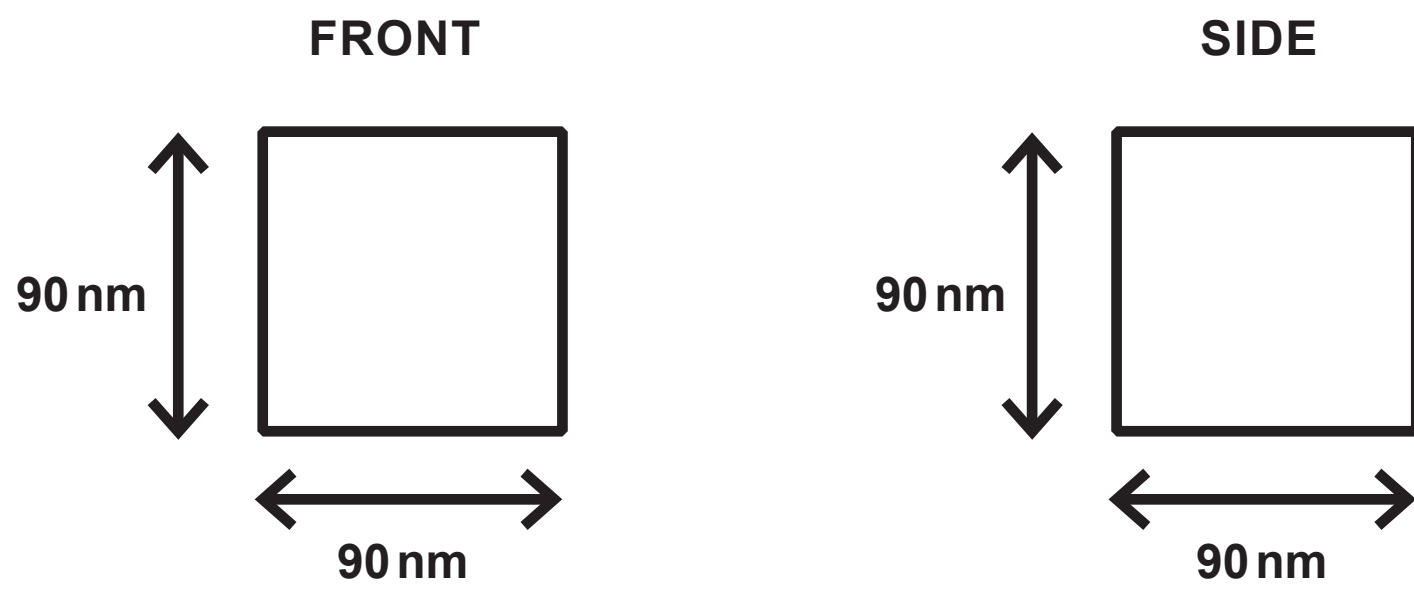
Question 3

FIGURE 6

| group 1 metal | atomic number | relative atomic mass |
|---------------|---------------|----------------------|
| lithium | 3 | 7 |
| sodium | 11 | 23 |
| potassium | 19 | 39 |
| rubidium | 37 | 85 |
| caesium | 55 | 133 |

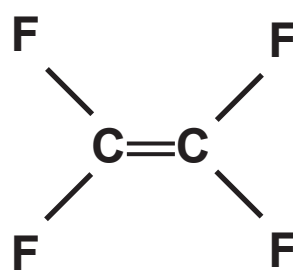
Question 4(b)

FIGURE 7



Question 4(c)

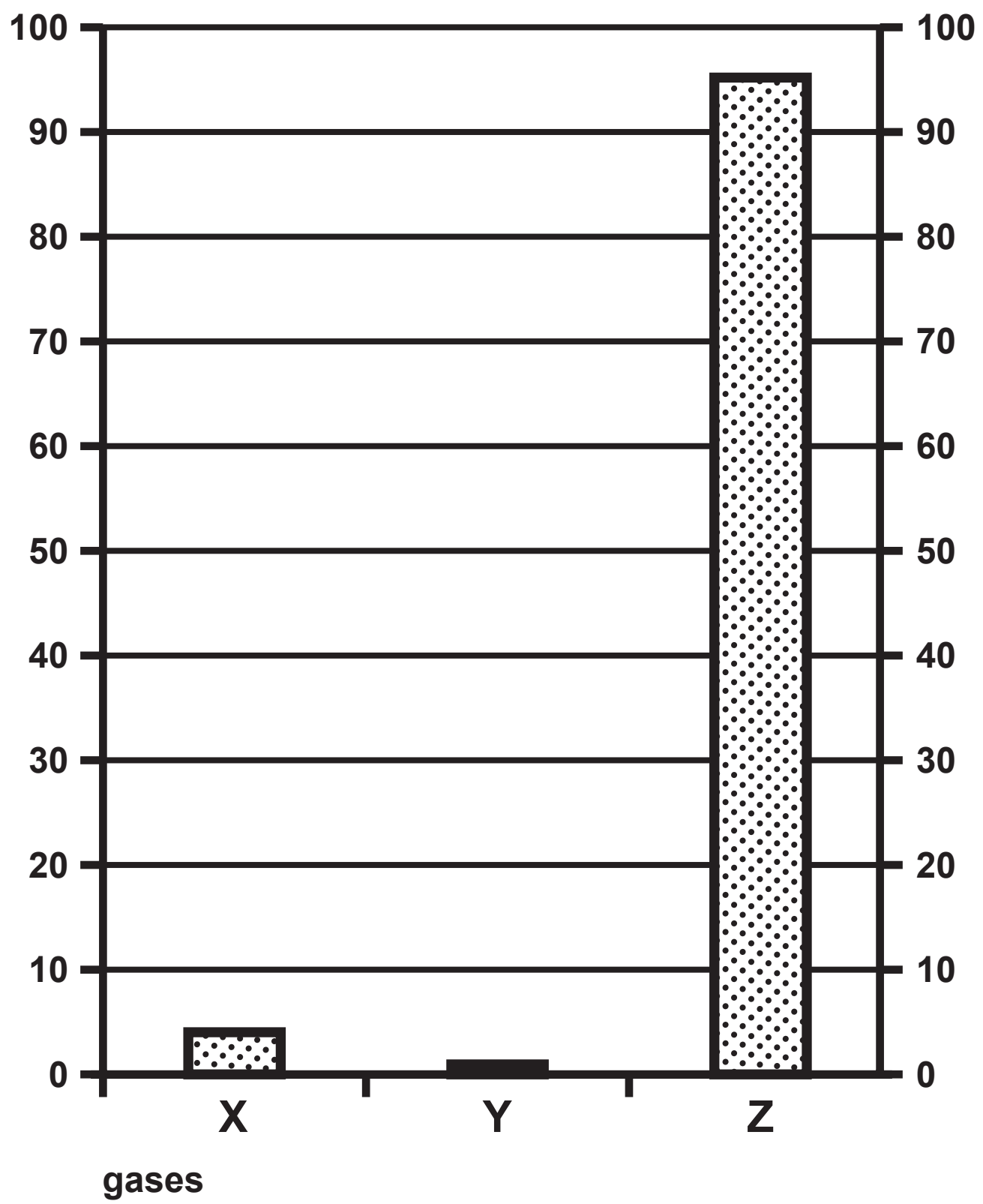
FIGURE 8



Question 5(a)

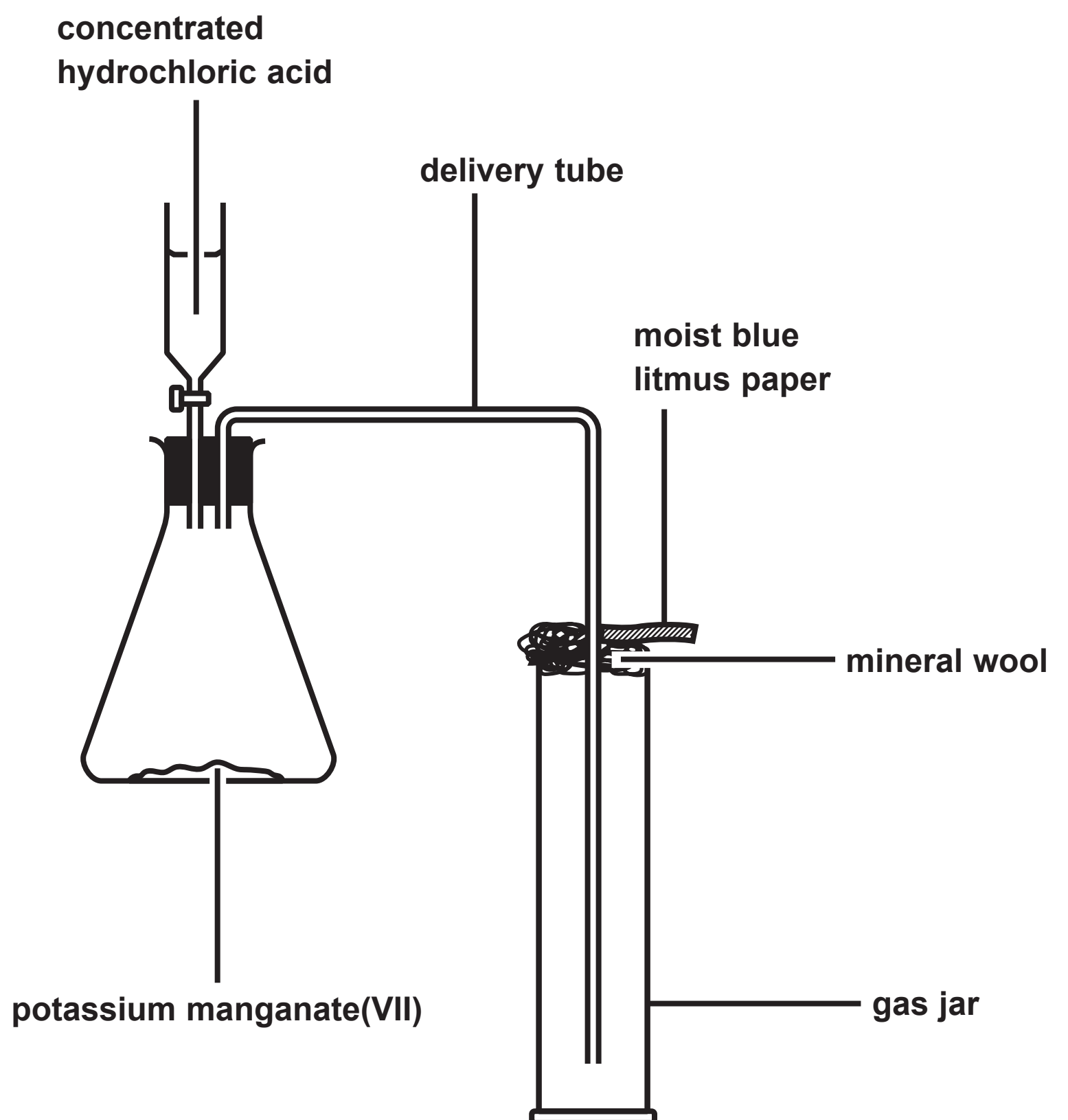
FIGURE 9

percentage of gas in
Earth's early atmosphere











Question 6

FIGURE 10



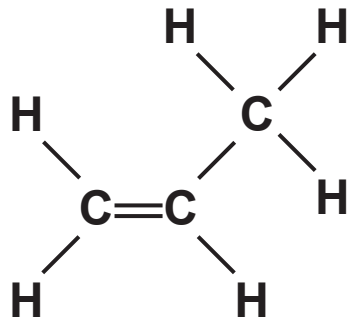
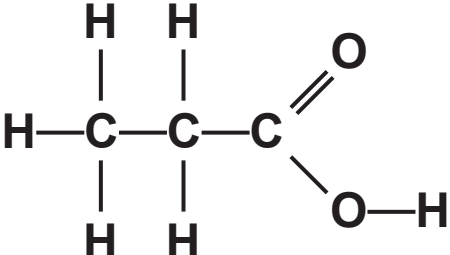
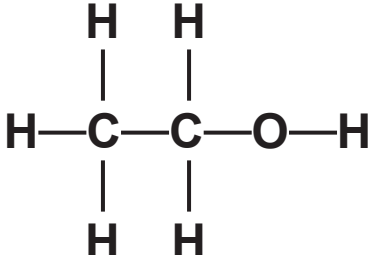
Question 6(a)

FIGURE 11

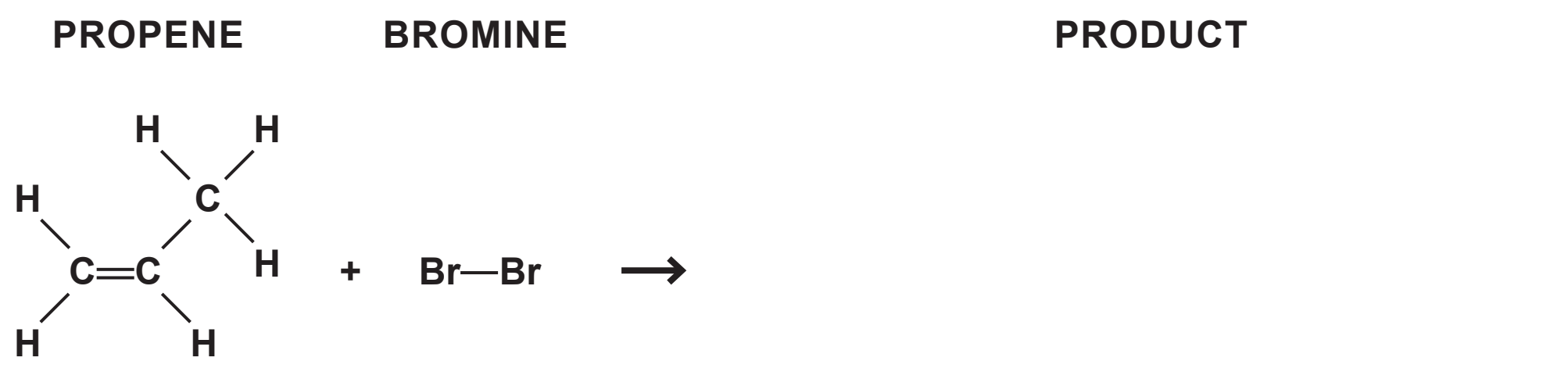
| substance | hazard symbol |
|--------------------------------|--|
| concentrated hydrochloric acid |   |
| potassium manganate(VII) |    |
| chlorine gas |    |

Question 7(a)(i)

FIGURE 12

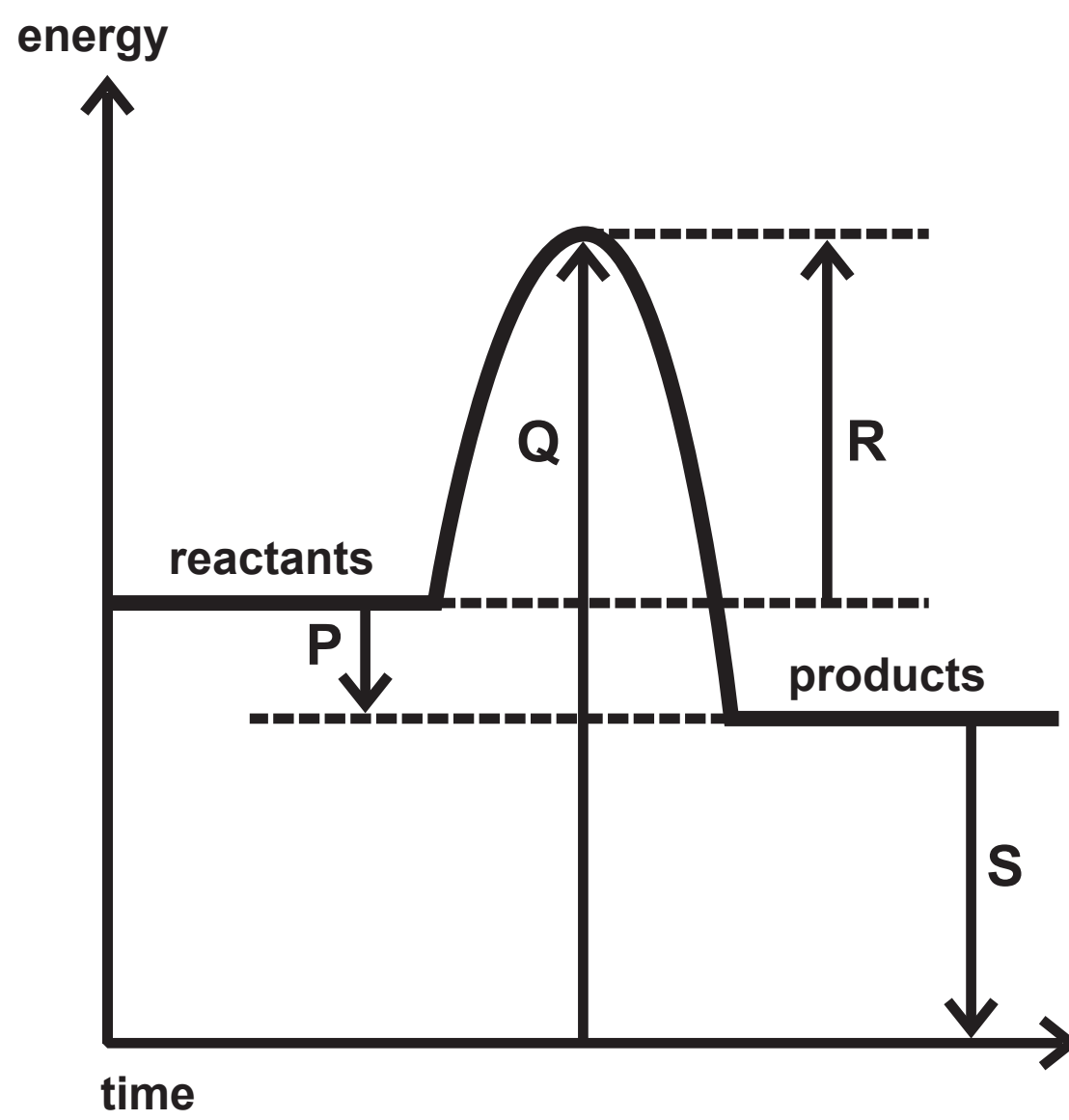
| propene | propanoic acid | ethanol |
|--|--|---|
|  |  |  |

Question 7(a)(ii)



Question 8(b)

FIGURE 13



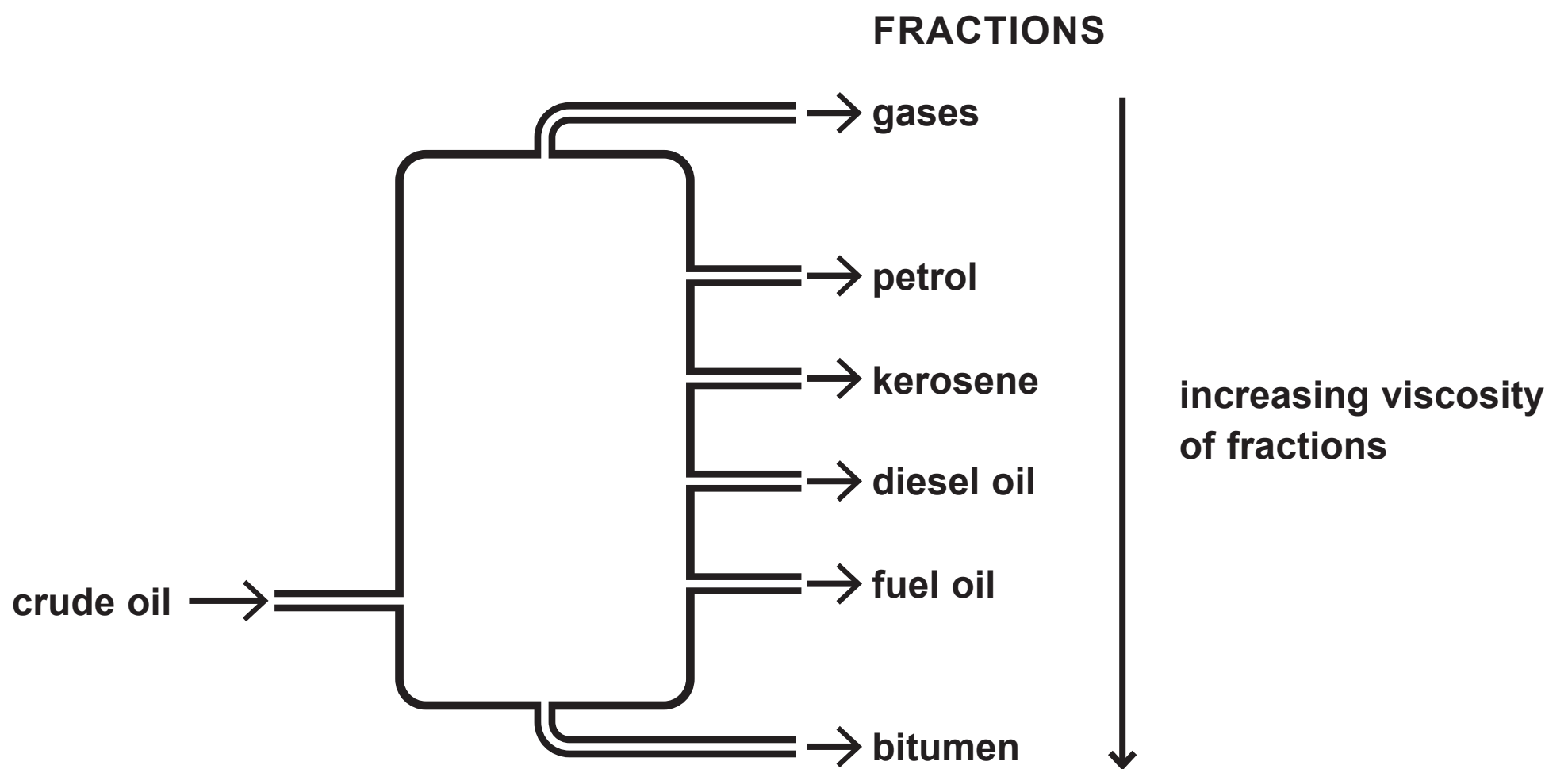
Question 8(b)(iii)

FIGURE 14

| bond | bond energy in kJ mol^{-1} |
|--------------------------|-------------------------------------|
| $\text{N}\equiv\text{N}$ | 944 |
| $\text{H}-\text{H}$ | 436 |
| $\text{H}-\text{N}$ | 388 |

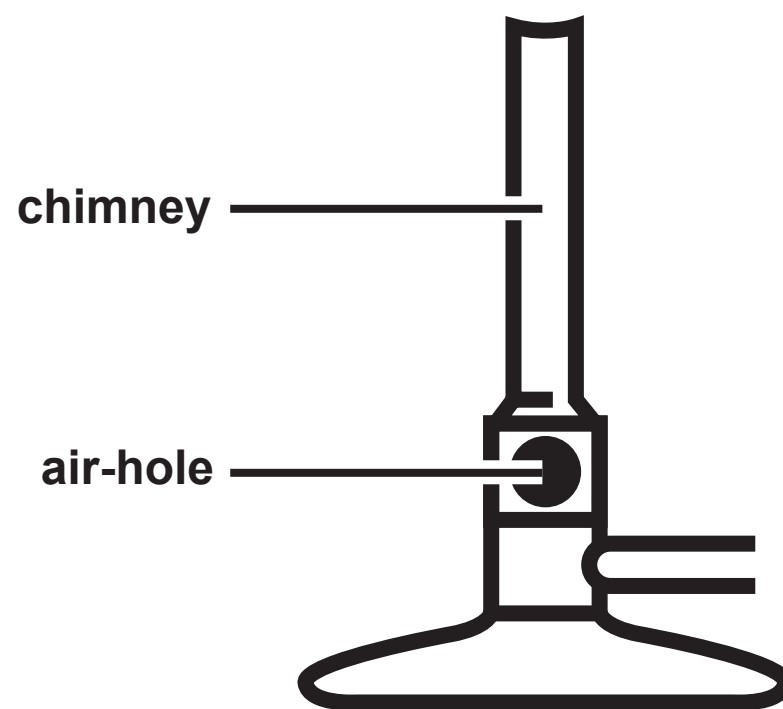
Question 9(a)

FIGURE 15



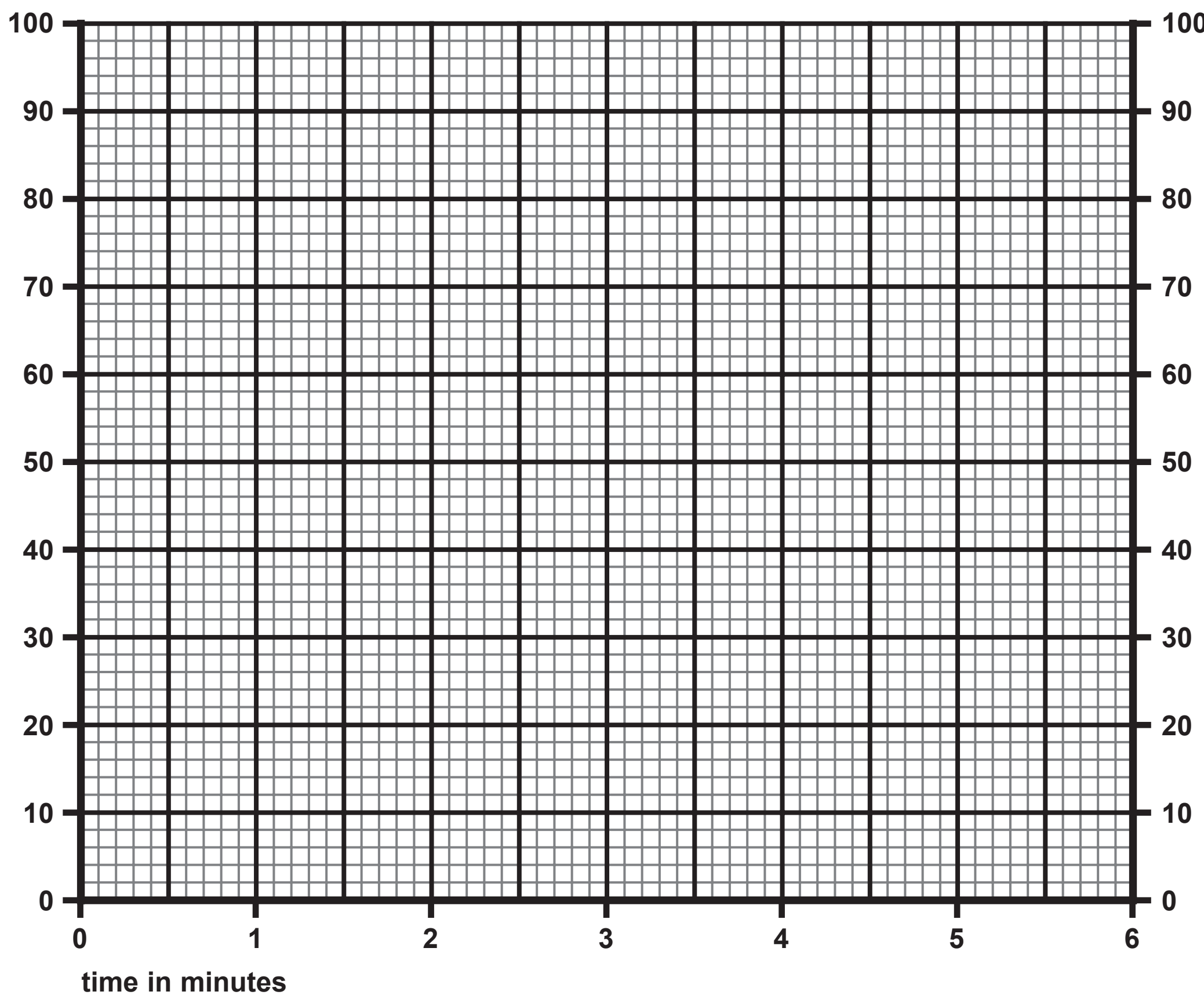
Question 9(c)

FIGURE 16



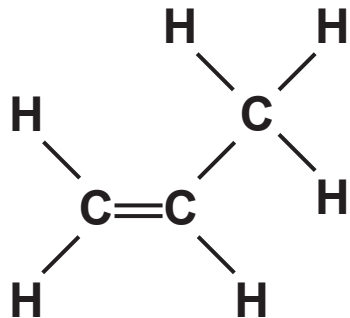
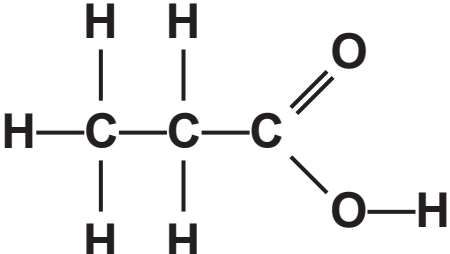
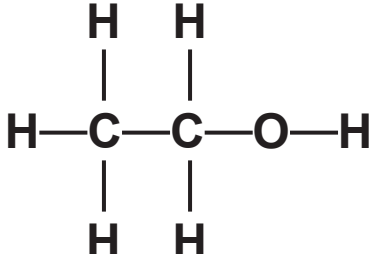
Question 2(a) and 2(c)

volume of gas
in cm³



Question 7(a)(i)

FIGURE 12

| propene | propanoic acid | ethanol |
|--|--|---|
|  |  |  |

Question 7(a)(ii)

