

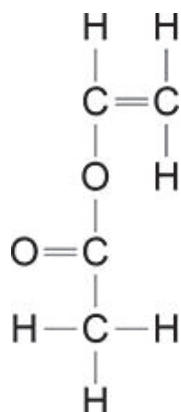
All questions are for separate science students only**Q1.**

This question is about monomers and polymers.

Compound **A** has an alkene functional group and an ester functional group.

Figure 1 represents a molecule of compound **A**.

Figure 1



- (a) Draw a circle around the alkene functional group on **Figure 1**.

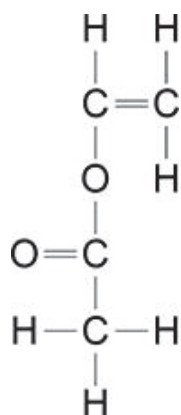
(1)

- (b) Describe what will be seen when compound **A** is shaken with bromine water.

(2)

- (c) **Figure 2** is a repeat of **Figure 1**.

Figure 2



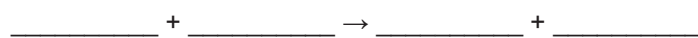
Draw a circle around the ester functional group on **Figure 2**. (chemistry only)

(1)

- (d) Compound **A** has the formula $\text{C}_4\text{H}_6\text{O}_2$

Compound **A** is flammable.

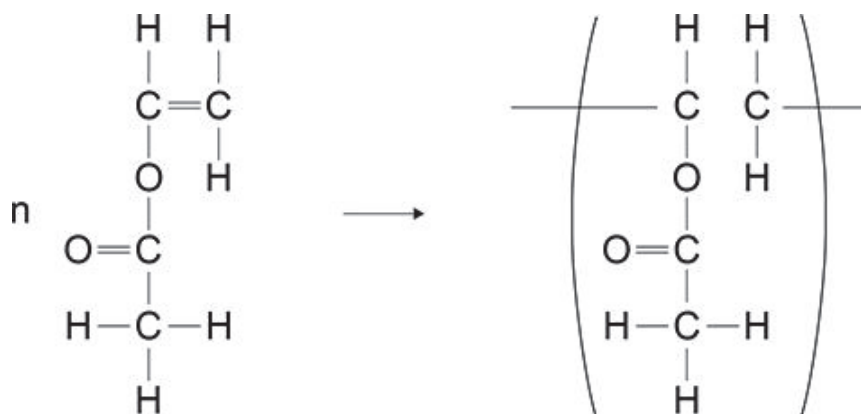
Write a balanced equation for the complete combustion of compound **A**. (chemistry only)



(3)

- (e) Many molecules of compound **A** join together to form polymer **B**.

Complete the displayed formula equation which represents this reaction. (chemistry only)



(2)

- (f) What type of polymer is polymer **B**? **(chemistry only)**

Tick (✓) **one** box.

Addition polymer

☐

Condensation polymer

☐

DNA

☐

Protein

☐

(1)

Polymer **B** is a polymer which melts when heated.

- (g) What word is used to describe polymers which melt when heated? **(chemistry only)**

(1)

- (h) Explain why some polymers do **not** melt when heated. **(chemistry only)**

(2)

(Total 13 marks)