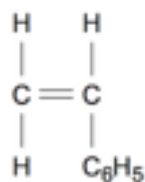


- 1 The diagram shows the structural formula for styrene. Styrene is a monomer that can be made into a polymer.



- 1 (a) (i) Give evidence from the diagram that shows styrene is unsaturated. [1 mark]

Contains a double bond. [1]

- 1 (a) (ii) Complete the diagram to show the product in the equation. [2 marks]

Brackets correct [1] 'n' in correct place [1]



- 1 (a) (iii) Styrene is produced from cracking long chain hydrocarbons. The products of cracking include alkanes and unsaturated hydrocarbons called alkenes.

Alkenes can be made into polymers.

What is the general formula for an alkene molecule? [1 mark]

C_nH_{2n} [1]

- 1 (a) (iii) One example of a polymer is polythene. Polythene is made into useful objects including plastic bags.

Disposal of objects made from polystyrene can cause environmental problems.

Explain why. [3 marks]

Polystyrene does not decompose. [1]

Burning it can cause pollution. [1]

If thrown in landfill it takes up space. [1]

(Total 7 marks)

End