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Level 1 Chemistry, 2017

90932 Demonstrate understanding of aspects of carbon chemistry

9.30 a.m. Tuesday 14 November 2017
Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of aspects of carbon chemistry.	Demonstrate in-depth understanding of aspects of carbon chemistry.	Demonstrate comprehensive understanding of aspects of carbon chemistry.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–10 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

TOTAL

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QUESTION ONE

- (a) Draw the structural formulae of propane and propene in the boxes below.

Propane	Propene

- (b) Propene is used to make the polymer polypropene.

In the box below, draw a section of the polymer polypropene with THREE repeating units.

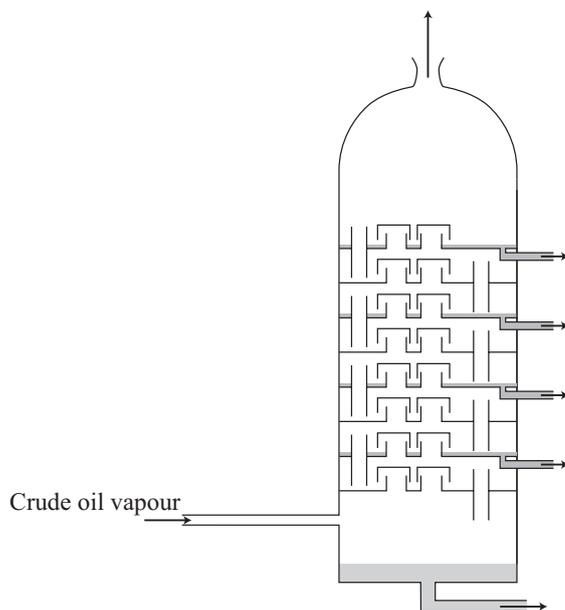
- (c) The boiling point for ethene is -104°C and propene is -48°C .

Why does propene have a higher boiling point than ethene?

Explain your answer.

QUESTION TWO

Crude oil is fractionally distilled in tall towers, like the one shown in the diagram below.



- (a) (i) Why must crude oil be fractionally distilled before it can be used?

Explain your answer.

- (ii) Explain why smaller hydrocarbons are collected at the top of the tower.

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