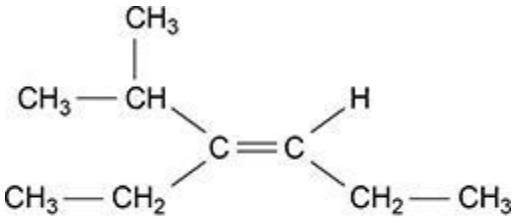
Practice Question Set For A-Level
Subject : Chemistry
Paper-2 Topic: Alkenes

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Name of the Student:_____
Max. Marks : 26 Marks **Time : 26 Minutes**

Q1.

(a) Compound **J** is one of a pair of stereoisomers.



Compound **J**

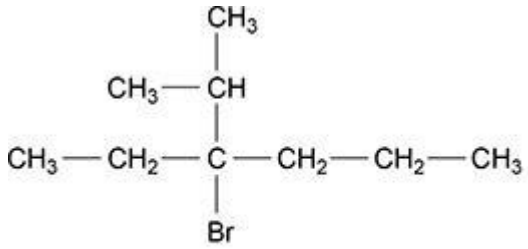
Explain:

- what stereoisomers are
- how *E*-*Z* stereoisomerism occurs
- how the Cahn-Ingold-Prelog rules can be used to decide whether compound **J** is an *E* or *Z* isomer.

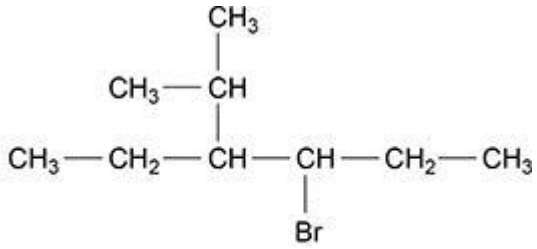
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(6)

(b) Compound **J** reacts with hydrogen bromide to form compounds **K** and **L**.



Compound **K**



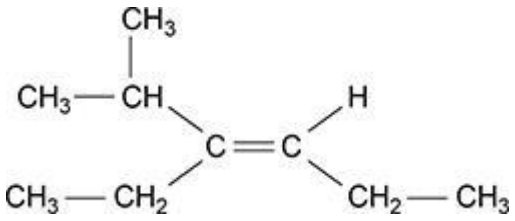
Compound **L**

K is the major product.

Name and outline the mechanism for the formation of **K**.

Name of mechanism _____

Outline of mechanism



(5)

(c) Explain why compound **K** is the major product in the reaction in part (b).

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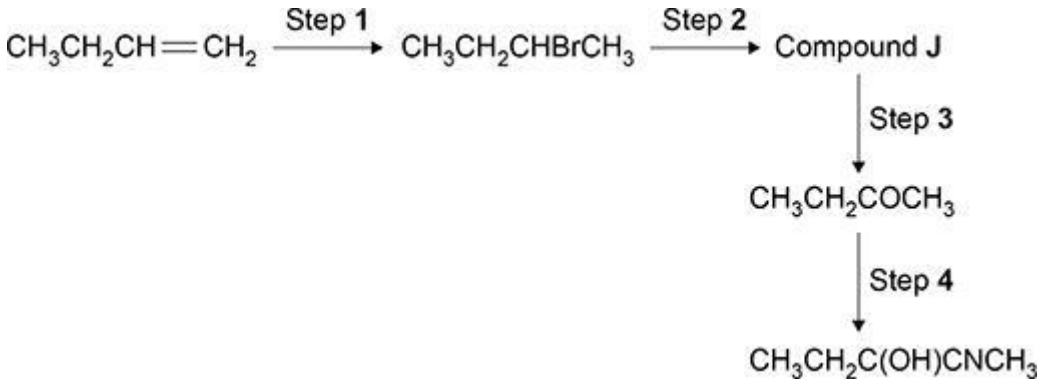
(3)

(Total 14 marks)

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Q2.

This question is about an organic synthesis.



(a) Name the mechanism in Step **1**.

State the reagent(s) used for Step **1**.

Name of mechanism _____

Reagent(s) _____

(2)

(b) Identify compound **J**.

State the reagent(s) and conditions needed for Step **2**.

Compound **J** _____

Reagent(s) and conditions _____

_____

(2)

(c) State the reagent(s) used for Step **4**.

Outline the mechanism for Step **4**.

Reagent(s) _____

Mechanism

(5)

(d) Explain why Step **4** produces a racemic mixture.

_____

_____

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_____

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(3)

(Total 12 marks)

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