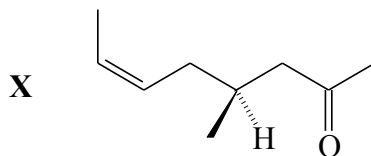


**Marks**  
**6**

- Compound **X** was isolated as a derivative of a natural product.



**Carbon 4 of X is a stereogenic centre. List the substituents attached to C4 in descending order of priority according to the sequence rules.**

highest priority

lowest priority

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What is the systematic name for compound **X**? Make sure you include all relevant stereochemical descriptors.

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Reduction of **X** with sodium borohydride ( $\text{NaBH}_4$ ) followed by quenching the reaction with dilute acid gives **Y**. Give the constitutional formula for **Y**.

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Product **Y** can be separated into two isomers. Explain.

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