

Marks
5

- 1,2-Dichloropropane can exist in two enantiomeric forms, compounds I and II. In the boxes below draw structures of the two enantiomers of 1,2-dichloropropane clearly showing the stereochemistry at the chiral carbon.

compound I	compound II
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There are three other compounds, III, IV and V with molecular formula $C_3H_6Cl_2$. In the boxes below, give the constitutional formulas and names of these compounds.

Structure	Name
compound III	
compound IV	
compound V	

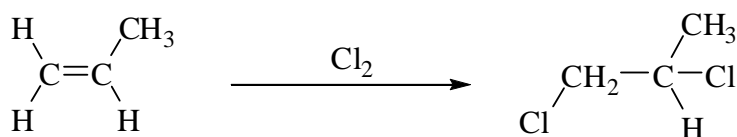
THIS QUESTION CONTINUES ON THE NEXT PAGE.

Compounds I, II, III, IV and V are isomers. From the list *enantiomers*, *diastereomers*, *conformers*, *constitutional isomers* complete the following table.

Marks
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PAIR OF COMPOUNDS	ISOMERIC RELATIONSHIP BETWEEN PAIR OF COMPOUNDS
I and III	
I and IV	
II and IV	

1,2-Dichloropropane can be synthesised in the laboratory by treatment of propene with chlorine as is shown in the following equation.



Which of the following best describes the product:
(*R*)-enantiomer, (*S*)-enantiomer, racemate?

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