

Organic(2011 VCE)

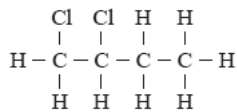
1) Which one of the following compounds is least soluble in water at room temperature?

- a) ethane
- b) ethanol
- c) ethylamine;
- d) ethanoic acid

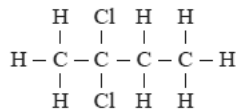
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2) The structure that is formed from the addition reaction between but-2-ene and Cl_2 is

A.

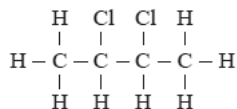


C.

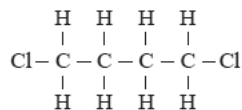


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B.

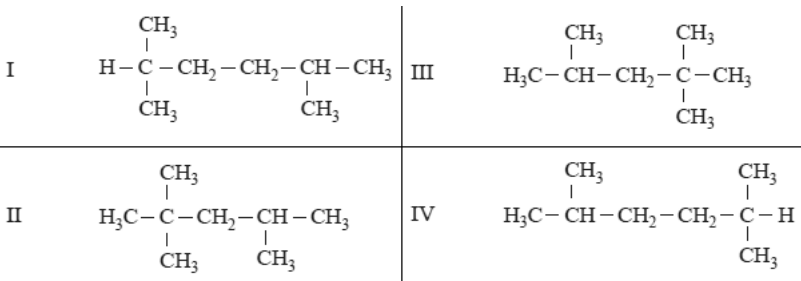


D.



[Solution](#)

3) Consider the structures below.



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Which structure is that of 2,2,4-trimethylpentane?

- a) I and III only
- b) I and IV only
- c) II and III only
- d) II and IV only

[Solution](#)

4) The compound that is not an isomer of 2,2,4-trimethylpentane

- a) octane
- b) 3-ethylhexane
- c) 2, 4-dimethylpentane
- d) 2,4-dimethylhexane

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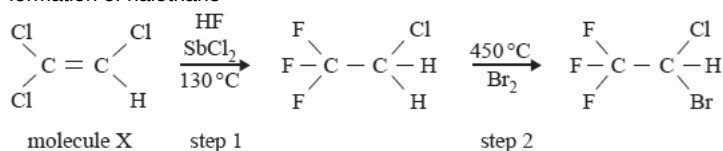
5) Alanine, lysine and aspartic acid are amino acids. Which of these will react with 0.1 M $\text{HCl}(\text{aq})$?

- a) lysine only
- b) alanine and lysine only
- c) aspartic acid and lysine only
- d) alanine, aspartic acid and lysine

[Solution](#)

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6) Halothane is a general anaesthetic. The diagram below outlines the reaction pathway for the formation of halothane

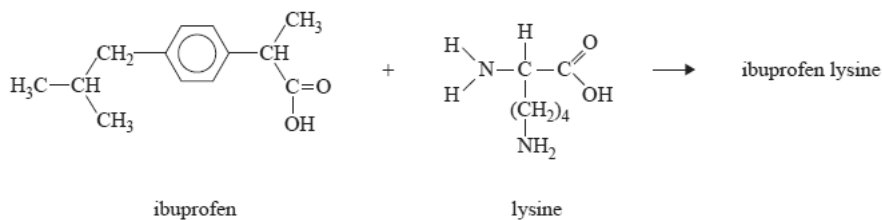


Which of the following correctly identifies the reaction occurring in step 2 and correctly states the systematic name of product X?

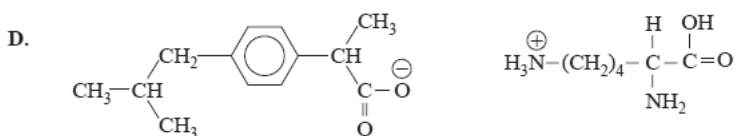
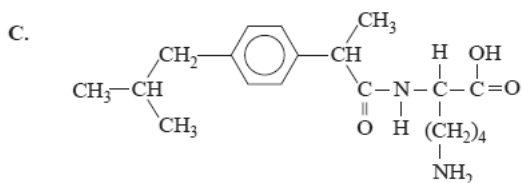
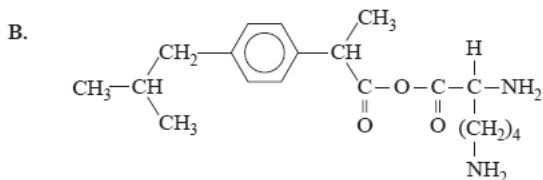
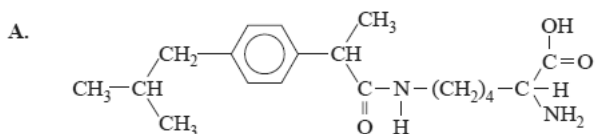
	Type of reaction in step 2	Systematic name of molecule X
A.	substitution	1,2,2-trichloroethane
B.	addition	1,1,2-trichloroethane
C.	substitution	1,1,2-trichloroethene
D.	addition	1,2,2-trichloroethene

[Solution](#)

7) The pain killer ibuprofen lysine is more soluble in water than ibuprofen and can therefore be administered intravenously. Ibuprofen lysine is formed when ibuprofen and the amino acid, lysine, react with each other.



The structure of ibuprofen lysine is most likely



Solution will appear here

[Solution](#)

[Click](#) for detailed explanation of the solution to 7)

8) Banana oil, 3-methylbutylethanoate, $\text{CH}_3\text{COOCH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$, is a sweet smelling liquid that gives bananas their characteristic odour. A chemist working for Raz Bananas Pty Ltd has proposed the following reaction pathway for the synthesis of banana oil.

Solution will appear here

