

INDIAN SCHOOL MUSCAT
DEPARTMENT OF CHEMISTRY
CLASS – 11
ORGANIC CHEMISTRY
SOME BASIC PRINCIPLES AND TECHNIQUES
ANSWERS

2 Homolytic cleavage of covalent bond produces free radicals

3 i. Assertion: But-1-ene and 2-methylprop-1-ene are position isomers.

Reason: Position isomers have same molecular formula but different arrangement of carbon atoms

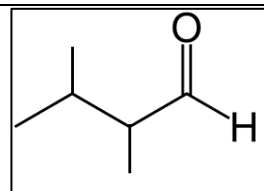
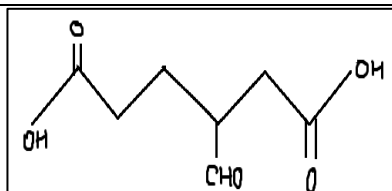
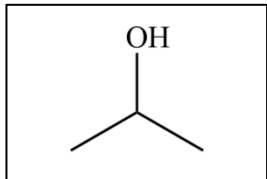
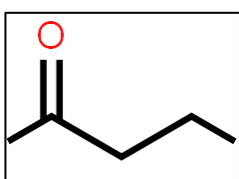
Assertion and Reason is false

ii. Assertion: Tert-butyl carbanion is less stable than methyl carbanion.

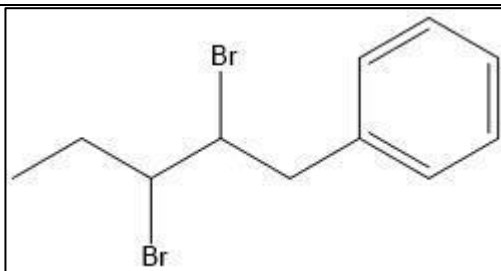
Reason: The +I effect of CH₃ group tends to stabilize tert-butyl carbanion.

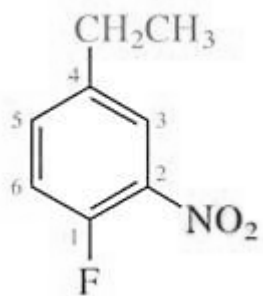
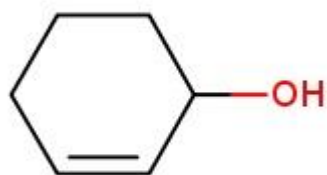
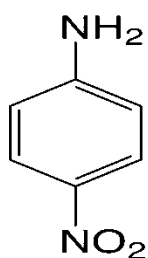
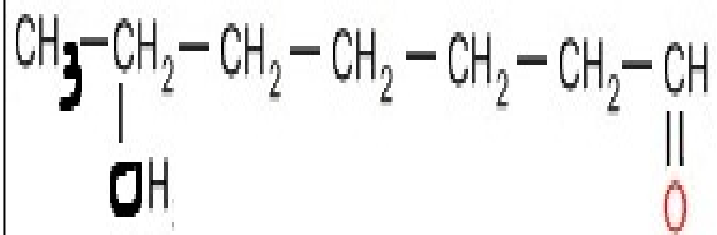
Assertion is true reason is false

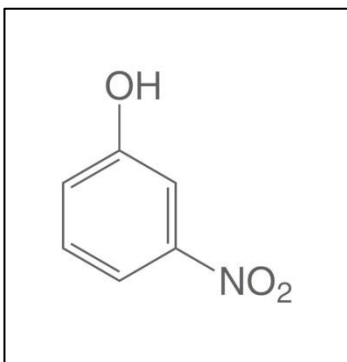
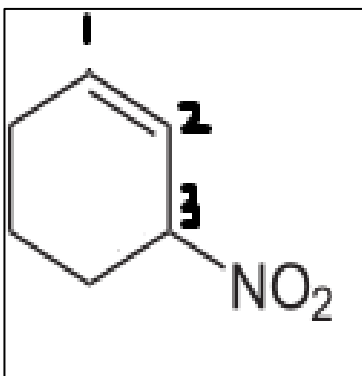
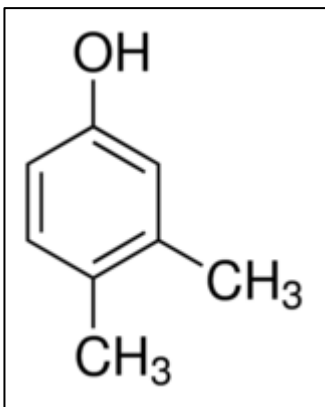
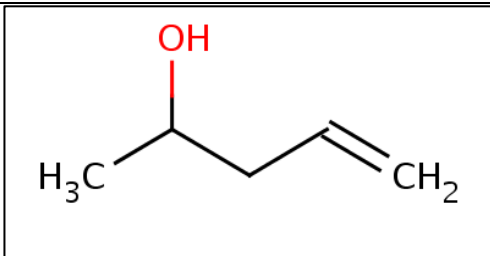
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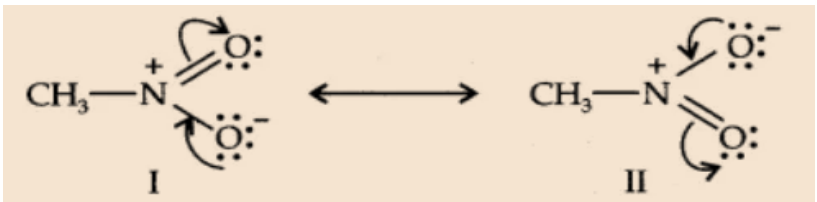
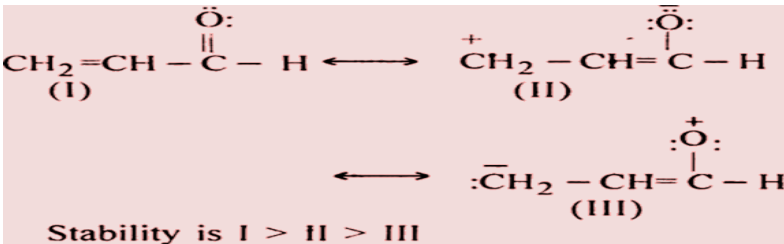




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- a) Correct
- b) 2,4,7-trimethyloctane
- c) 2-Chloro-4-methylpentane
- d) But-3-yn-1-ol

	<ul style="list-style-type: none"> e) 2-Hydroxyethan-1-oicacid f) Correct g) 3-Methylhex-3-ene h) Hexa-1,5-diene i) 3-Ethyl-4-methylhexane j) Pent-1-ene
7	<ul style="list-style-type: none"> a) 1-Propylbenzene b) 3-Methylpentane c) 3,3-dimethylpentane d) But-2-ene e) 2,4,4-Trimethylpentene f) 3,3-Dimethylbutanal g) 3-Hydroxypropan-1-oicacid h) 3-Oxobutanal i) 2,2,3-Trimethylpentane j) Penta-1,4-diene k) 2-Methylpentanoic acid l) Nitropropane m) 3-Hydroxybutanal n) 3-Aminoprop-2-enoic acid o) Pentane-2,3-dione p) Ethylbutanoate q) 1,1-Dichloroethane r) Ethane-1,2-dioic acid s) Hex-1-en-4-yne t) 4-Iodobutanoic acid u) 2-Oxopropanoic acid v) Cyclohexanone w) 2,2,3-Trimethylpentane x) 5-Methylhexene y) 2,2,6-Trimethyloctane
8	<p>a) $\text{NO}_2 \text{CH}_2 \text{CH}_2 \text{O}^-$, nitro is electron withdrawing group, stabilizes the anion</p> <p>b) $(\text{CH}_3)_2 \text{CH}^+$, due to +I and greater hyperconjugative structures</p>
9	Definition with examples

10	Difference with examples
14	a) $\text{CH}_3\text{CH}_2\text{CH}_2^+$, $\text{CH}_3\text{CH}^+\text{CH}_2\text{CH}_3$, $(\text{CH}_3)_3\text{C}^+$ b) $(\text{CH}_3)_3\text{C}^-$, $(\text{CH}_3)_2\text{CH}^-$, CH_3CH_2^- , CH_3^-
17	Definition with example
18	Give a pair of functional isomers of a) $\text{C}_2\text{H}_4\text{O}_2$ - ester and carboxylic acid b) C_3H_6 – cannot show functional isomerism
19	Definition with example
20	b) Nitromethane  d) Prop-2-enal  Stability is I > II > III