

XI Chemistry Worksheet

Time: 30 min

Ch # 13: Hydrocarbons-03

Full Marks: 20

Instructions:

1. All questions are compulsory.
2. Please give the explanation for the answer where applicable.

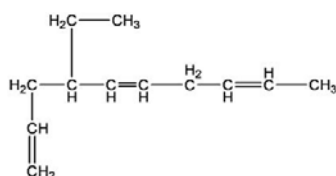
Q1 - Define conformation.

(1 Mark)

Q2 - Define cracking with an example.

(1 Mark)

Q3 - Write the IUPAC name of the following compound



(1 Mark)

Q4 - Draw all the possible structural isomers of C₆H₁₄. Also write their IUPAC names.

(2 Marks)

Q5 - Convert

- (i) Phenol into benzene.
- (ii) Benzene into ethyl benzene.

(2 Marks)

Q6 - Which one is more polar, cis-but-2-ene or trans-but-2-ene and why?

(2 Marks)

Q7 - Convert:

- (a) Ethylene to ethane.
- (b) Benzene to acetophenone.

(3 Marks)

Q8 - (i) With the help of resonating structures explain that methyl group is *o,p*-directing?
(ii) Convert acetic acid to ethylene.

(3 Marks)

Q9 - Complete the following reactions:

- (i) $\text{C}_6\text{H}_6 + \text{Conc. HNO}_3 + \text{Conc. H}_2\text{SO}_4 \xrightarrow{323\text{K} - 333\text{K}}$
- (ii) $\text{C}_6\text{H}_6 + \text{H}_2\text{SO}_4 (\text{SO}_3) \xrightarrow{\text{heat}}$
- (iii) $\text{C}_6\text{H}_6 + \text{Cl}_2 \xrightarrow{\text{anhy. AlCl}_3}$
- (iv) $\text{C}_6\text{H}_6 + \text{CH}_3\text{Cl} \xrightarrow{\text{anhy. AlCl}_3}$
- (v) $\text{C}_6\text{H}_6 + \text{CH}_3\text{COCl} \xrightarrow{\text{anhy. AlCl}_3}$

(5 Marks)