

CHEMISTRY ASSIGNMENT

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DEPARTMENT: COMPUTER ENGINEERING

COURSE TITLE: GENERAL CHEMISTRY II

COURSE CODE: CHM 102

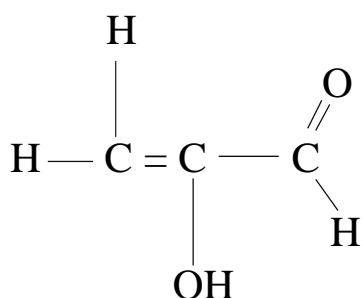
MATRIC NO.: 19/ENG02/069

ASSIGNMENT TITLE: STEREOCHEMISTRY AND FUNCTIONAL GROUP

1. Name the functional group present in each of the following molecules



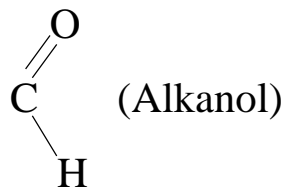
The structural formular:



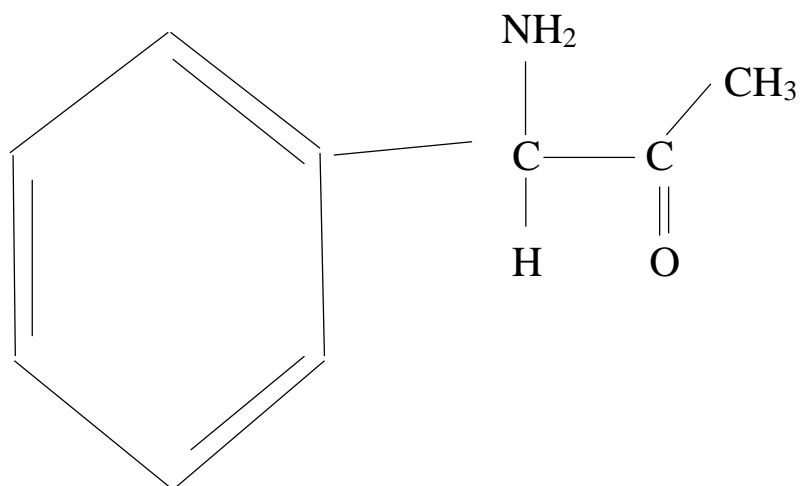
Functional group present are;

- Double bond chain = (Alkenes)
- OH (Hydroxylymp)

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The structural formular;

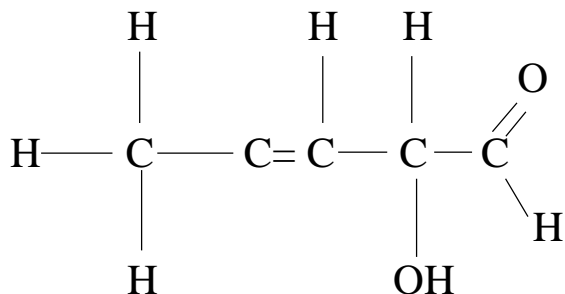


Functional group present

- Phenoyl group (C₆H₅) with double bonds
- Amine
- Alkanone/ ketone ($\text{C}=\text{O}$)

iii. $\text{CH}_3\text{CHCH}(\text{OH})\text{CHO}$

The structural formula;



Functional group present are;

- Alkenes ($\text{C}=\text{C}$)
- Hydroxyl group (off)

- Alkanol ($\begin{array}{c} \text{O} \\ // \\ \text{C} \\ \backslash \\ \text{H} \end{array}$)

2. A 0.856 g sample of pure (2R, 3R)-tartaric acid was diluted to 10cm³ with water and placed in a 1.0 dm polarimeter tube. the observed rotation at 20⁰ C was +1.0⁰. Calculate the specific rotation of (2R, 3R)-tartaric acid.

Solution

Recall;

$$[\alpha]_{\pi}^T = \frac{\alpha}{1 \alpha C}$$

Where;

L = length of sample fuse

C = mass/ volume (g/dm) or (g/mol)

α = observed rotations

$$S_r = \frac{1.0}{\quad}$$

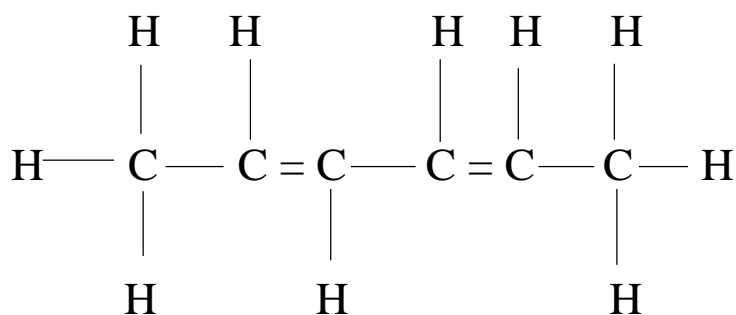
$$1.0 * (0.856/10)$$

$$S_r = 1/0.0856$$

$$= 11.68$$

3. Draw the possible geometric isomers (where possible) for each of the following compounds:

(i) Hexa-2,4-diene



(ii) 2,3-Dimethylbut-2-ene

