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DEPARTMENT: NURSING.

MATRIC NO.: 19/MHS02/114.

COURSE CODE: CHEM. 102.

ASSIGNMENT.

1. The functional group present in each of the following molecules are:

i. $\text{CH}_2=\text{C}(\text{OH})\text{HCHO}$:

- Alkene (double bond)

- OH (hydroxyl group)

- $\begin{array}{c} \text{R} \\ | \\ \text{C}=\text{O} \\ | \\ \text{H} \end{array}$ (aldehyde/ alkanal)

ii. $\text{C}_6\text{H}_5\text{CH}(\text{NH}_2)\text{COCH}_3$

- NH_2 (Amine)

- Ring C_6H_5 with double bond (Phenyl group)

- $\begin{array}{c} \text{C}-\text{R} \\ || \\ \text{O} \end{array}$ (Alkanone/ketone)

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

- Alkene (C=C)

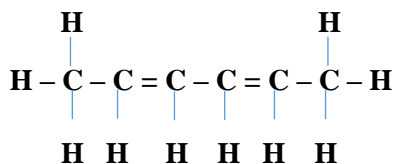
- Hydroxyl group (OH)

- Alkanal (CHO)

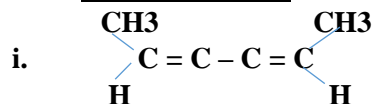
2.

$$[\alpha]_D^{25} = \frac{\alpha}{c \cdot l}; \alpha = +1.0^\circ, c = \frac{0.856}{10} = 0.0856 \text{ g/cm}^3$$
$$= \frac{+1.0}{0.0856} = \underline{\underline{11.68^\circ}}$$

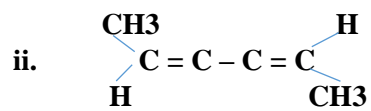
3.



a. Hexa-2, 4- diene.

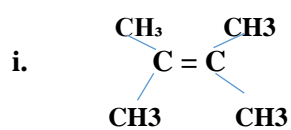
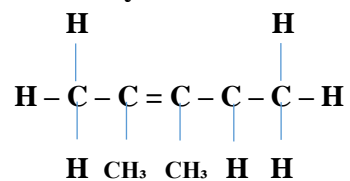


Cis - 1, 4-dimethyl but-1, 4-diene.



Trans - 1, 4-dimethyl but-1, 4-diene.

b. 2, 3 - Dimethyl but-2-ane



Neo - Butane.