

ANYAKORAH RAPHAEL CHINONDU

PHARMACY

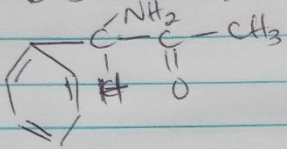
19/MHS11/030

CHEM 102 (ASSIGNMENT)

1&2.

CHEM 102

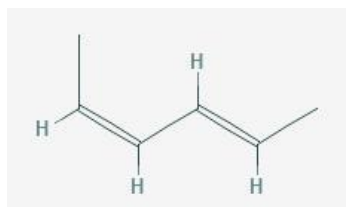
1. a) $\text{CH}_2 = \text{C}(\text{OH})\text{HCHO}$
Functional group present:
- Double bond chain (Alkene)
- OH (Hydroxyl group)
- $\text{C}=\text{O}$ (Alkanol)

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

Functional group present:
- Phenol group with double bonds
- Amine (NH_2)
- Alkanone (ketone $\text{C}=\text{O}$)

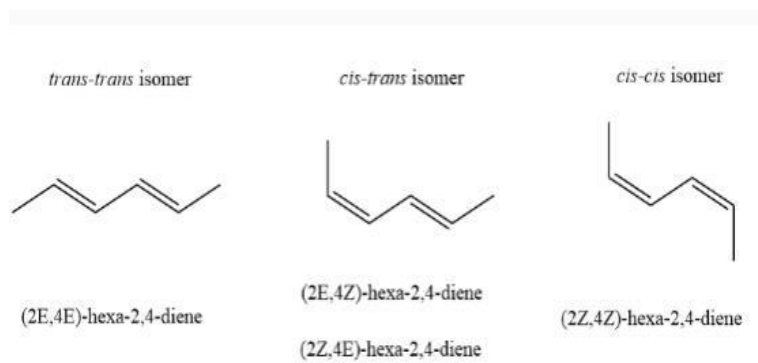
c) $\text{CH}_3\text{C}=\text{CHCH}(\text{OH})\text{CHO}$
Functional group present:
- Double bond (=)
- $\text{C}=\text{O}$ Alkanol
- OH Hydroxyl group.

2. mass of tartaric acid = 0.856g
vol. of water diluted in = 10cm^3
Recall,
mass conc. (c) = $\frac{\text{mass}}{\text{vol}} = \frac{0.856\text{g}}{10\text{cm}^3} = 0.0856\text{g/cm}^3$
vol. of polarimeter tube = 1dm^3
∴ length of tube = 1dm
Observed rotation (α) = $+1.0^\circ$ at 20°C
Specific rotation $[\alpha] = ?$
$$[\alpha] = \frac{\alpha}{c \times l}$$
$$= \frac{+1.0^\circ}{0.0856\text{gcm}^{-3} \times 1\text{dm}}$$
$$[\alpha] = \frac{+1}{0.0856} = +11.682^\circ$$

3. Hexa-2,4-diene – has only 3 isomers



Isomers



B. 2,3 dimethyl but-2-ene. - does not have geometric isomers because there are two identical groups attached to the same carbon of the double bond.

