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MBBS/MHS.

Stereochemistry.

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

(i)  $\text{CH}_2 = \text{C}(\text{OH})\text{CHO}$   
Functional group; Alkene, Alcohol, Aldehyde.

(ii)  $\text{C}_6\text{H}_5\text{CH}(\text{NH}_2)\text{COCH}_3$   
Functional group; Amide, Ketone

(iii)  $\text{CH}_3\text{C}(\text{CH}_3) = \text{CHCH}_2\text{CHO}$   
Functional group; Alkene, Alkane, Aldehyde.

2. Solution

Specific Rotation

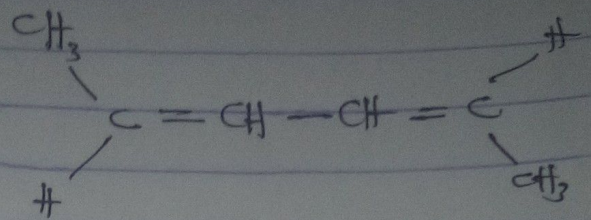
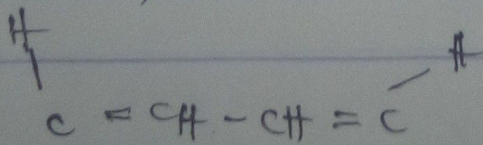
$$= \frac{\text{Observed Rotation (Degree)}}{(\text{conc. in g/cm}^3) \times \text{path length of sample (in dm)}}$$

$$\text{Specific Rotation} = \frac{1}{0.856 \text{ g} / 10 \text{ cm}^3 \times 1}$$

$$= 11.7 \text{ g}^{-1} \text{ cm}^3 \text{ dm}^{-2}$$

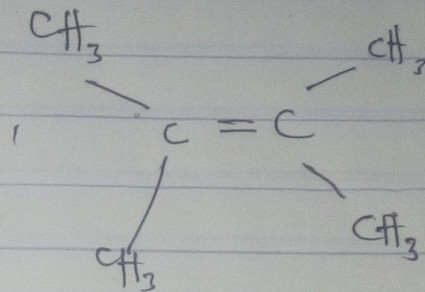
Draw the possible geometric isomers (where possible) for each of the following compounds

Hexa-2,4-diene ( $\text{CH}_3\text{CH}=\text{CHCH}=\text{CHCH}_3$ )



Trans Hexa-2,4-diene

(ii) 2,3-Dimethyl but-2-ene  
( $\text{CH}_3\text{C}(\text{CH}_3) = \text{C}(\text{CH}_3)\text{CH}_3$ )



There are no isomers for the compound