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Course: CHM 102  
Department: MBBS Medicine and Surgery  
Matric number: 19/MHS01/085

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

i)  $\text{CH}_2 = \text{C}(\text{OH})\text{HCHO}$  : Alkene group (Double bond)

Hydroxyl group (OH)

Aldehyde group (HO)

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

Phenyl group

Ketone group

iii)  $\text{CH}_3\text{C} = \text{CHCH}(\text{OH})\text{CHO}$  : Alkene group (Double bond)

Hydroxyl group (OH)

Aldehyde group (HO)

2. Recall, 
$$\left[ \alpha \right]_D^T = \frac{\alpha}{L \times C}$$

where  $L = \text{length}$

$C = \frac{\text{mass}}{\text{volume}}$

$\alpha = \text{Observed rotation}$

Aliyu

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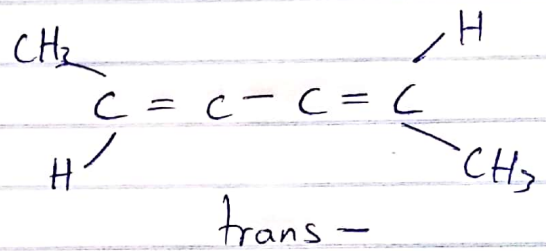
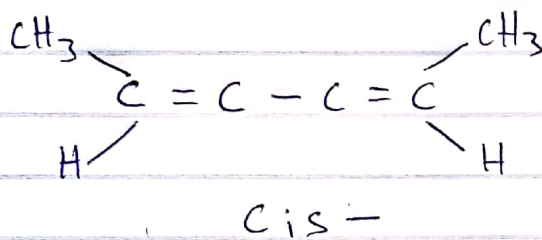
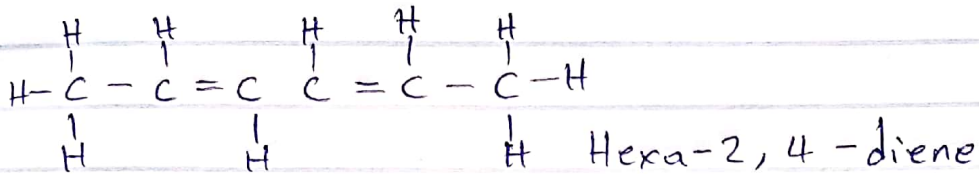
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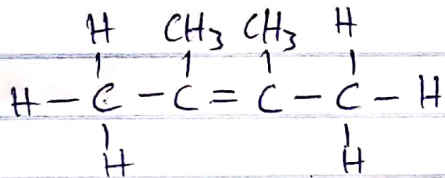
$$S_r = \frac{1.0}{r \times \left(\frac{0.856}{10}\right)}$$

$$S_r = \frac{1}{0.0856} \\ = 11.68$$

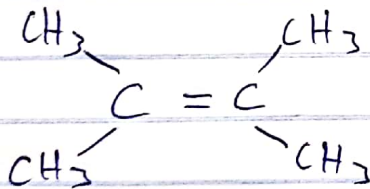
3.)



ii)



2,3-dimethylbut-2-ene



No geometric isomer.