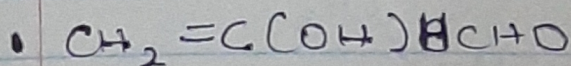


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ASSIGNMENT ON STEREOCHEMISTRY AND  
FUNCTIONAL GROUP

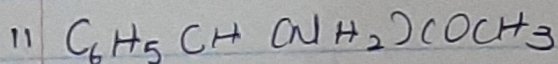
1 Name the functional groups present in each of the following molecules



a) Alkene ( $=$ )

b) Alcohol ( $-\text{OH}$ )

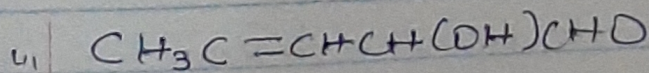
c) Alkanal / Aldehyde ( $-\text{CHO}$ )



a) Ketone / Alkanone ( $-\text{C}=\text{O}$ )

b) Amine ( $-\text{NH}_2$ )

c) Aromatic group (Phenyl)



a) Alkene ( $=$ )

b) Alcohol ( $-\text{OH}$ )

c) Alkanal / Aldehyde ( $-\text{CHO}$ )



2. 0.856g ~~at~~ Sample of Pure (2R, 3R)-tartaric acid was diluted to 10 cm<sup>3</sup> with water and placed in a 1.0 dm Polarimeter tube. The observed rotation at 20°C was +1.0°. Calculate the Specific ~~ambary~~ rotation of (2R, 3R)-tartaric



Mass of Pure (2R,3R) - tartaric acid = 0.856g

Volume = 10 cm<sup>3</sup>

Path length of sample cell = 1.0 dm

Observed rotation = +1.0°

Specific rotation = ?

Concentration in g/cm<sup>3</sup> =  $\frac{0.856}{10}$

$$= 0.0856 \text{ g/cm}^3$$

Specific Rotation =  $\frac{\text{Observed rotation}}{(\text{Concentration}) \times (\text{Path length of cell})}$

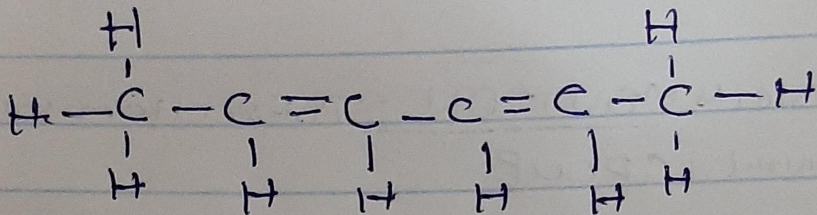
$$= +1.168 \times 10^4 \text{ g}^{-1} \text{cm}^3 \text{dm}^{-1}$$

$$= 11.68 \text{ } ^\circ \text{g}^{-1} \text{cm}^3 \text{dm}^{-1}$$

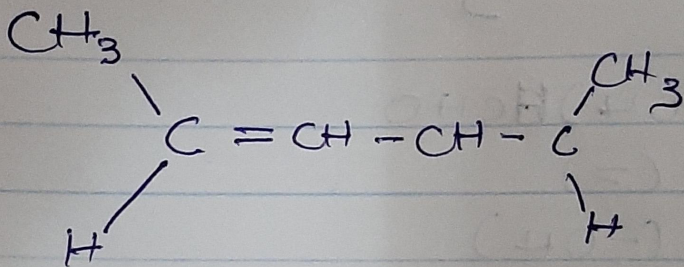


8 Draw the Possible Geometric Isomers  
(where possible) for each of the following  
Compounds.

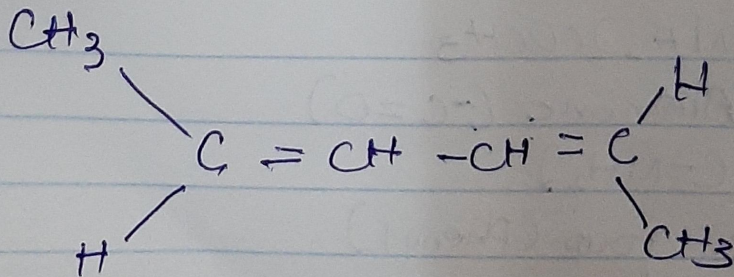
1. Hexa-2,4-diene



Isomers (Geometric).



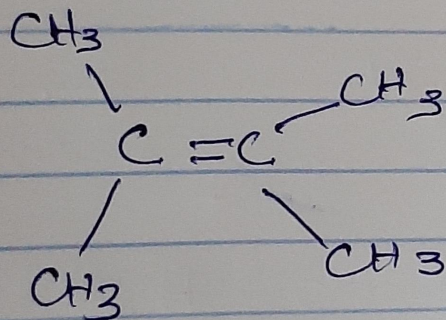
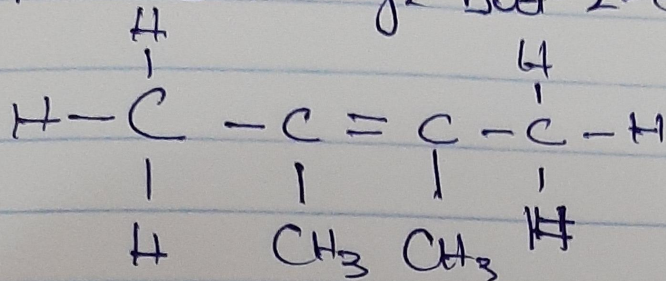
Cis-Hexa-2,4-diene



Trans-Hexa-2,4-diene



ii) 2,3-dimethyl but-2-ene



It has no cis-trans isomerism  
as all substituents are ~~identical~~ identical