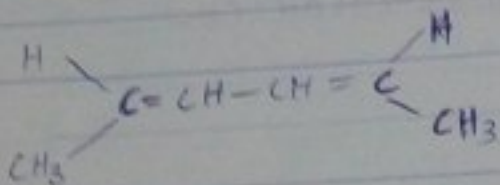
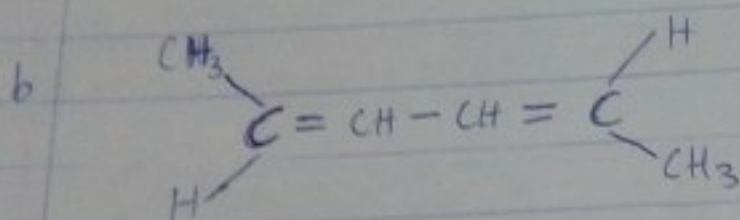


Ans
i. Hexa-2,4-diene $[CH_3-CH=CH-CH=CH-CH_3]$

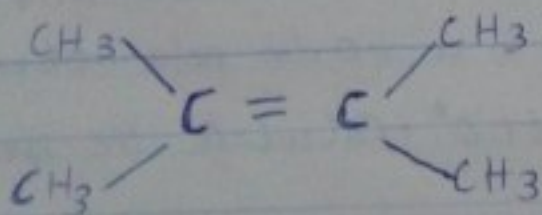


Cis Hexa-2,4-diene



Trans Hexa-2,4-diene.

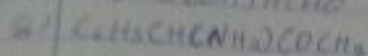
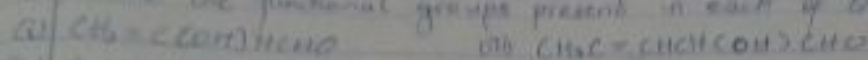
ii. 2,3-Dimethylbut-2-ene $[CH_3C(CH_3)=C(CH_3)CH_3]$



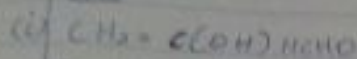
Geometric Isomerism is not possible in 2,3-Dimethylbut-2-ene

Assignment

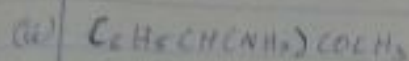
1 Name the functional groups present in each of the following molecules



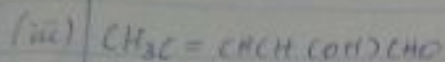
Ans



Functional group \Rightarrow Aldehyde, Alcohol and Alkene.



Functional group \Rightarrow Amide.



Functional group \Rightarrow Aldehyde, Alkene and Alcohol.

2. A 0.856g sample of pure (2R, 3R)-tartaric acid was diluted to 10cm³ with water and placed in a 1.0dm polarimeter tube. The observed rotation at 20°C was +1.0°. Calculate the specific rotation of (2R, 3R)-tartaric acid.

Soln

Specific Rotation = Observed rotation (degree)

[Concentration (g/cm³) \times path length of sample cell]

$$\begin{aligned}\text{Specific Rotation} &= \frac{1}{0.856\text{g}/10\text{cm}^3 \times 1} \\ &= 11.7\text{g}^{-1}\text{cm}^3\text{dm}^{-1}\end{aligned}$$

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

(i) Hexa-2,4-diene

(ii) 2,3-Dimethylbut-2-ene