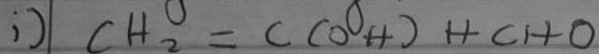


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MATRIC NUMBER: 19/MHS01/053
COURSE CODE: CHM 302
LEVEL: 300

Assignment

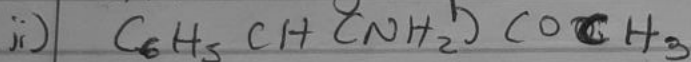
1. Name the functional groups present in each of the following molecules



- Formyl group (Aldehyde) group CHO

- Hydroxyl group OH

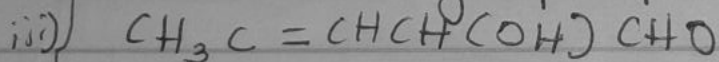
- Alkene group (Double bond)



- Keto group (Carbonyl group)

- Amino group NH_2

- Aromatic group (phenyl group)



- Aldehyde group

- Hydroxyl group

- Double bond (Alkene group)

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

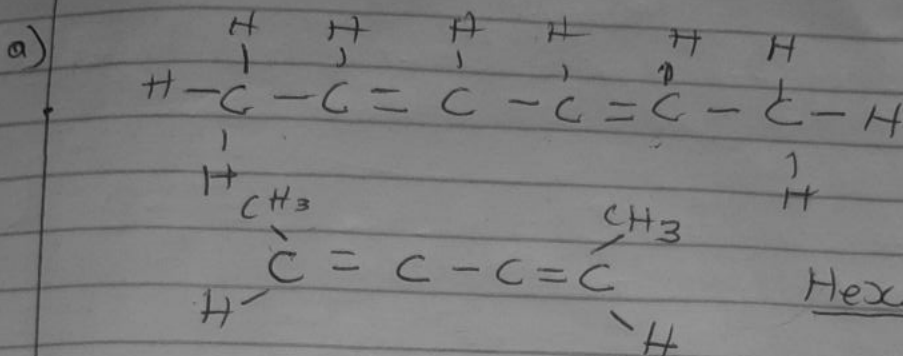
$$[\alpha]_D^{20} = \frac{\alpha}{c \cdot l} = \alpha = +1.0^\circ, c = \frac{0.856}{10}$$
$$= 0.0856\text{g/cm}^3$$

$$= \frac{+1.0}{0.0856} = 11.68^\circ$$

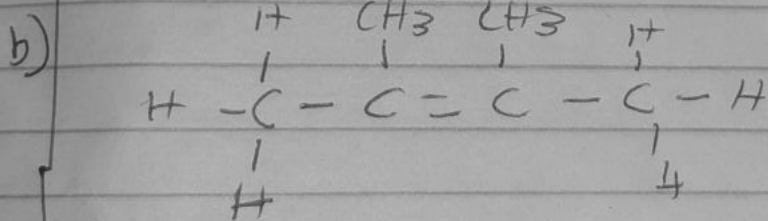
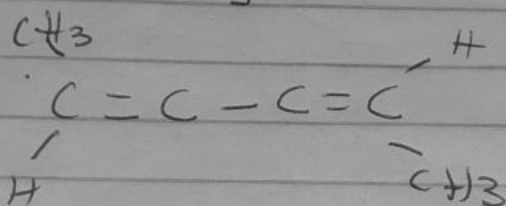
3. Draw the possible geometric isomers (where possible) for each of the following compounds

a) Hexa-2,4-diene

b) 2,3-Dimethylbut-2-ene



Cis-



2,3-dimethylbut-2-ene

NO geometric isomers