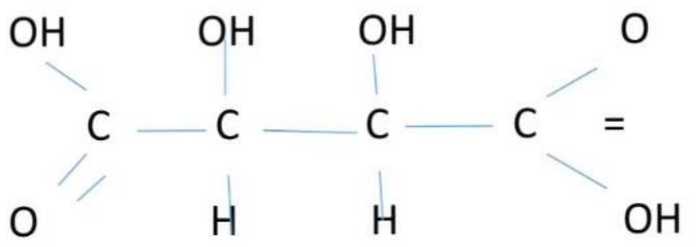
STEREOCHEMISTRY AND FUNCTIONAL GROUPS.

1. Name the functional groups present in each of the following molecules
   i) $CH_2C(OH)HCHO$--------- Formyl group (aldehyde) group(CHO), Hydroxyl group(OH), Alkene group
   ii) $C_6H_5CH(NH_2)COCH_3$-------- Amines, carbonyl group, aromatic
   iii) $CH_3C=CHCH(OH)CHO$---------- Alkene, hydroxyl group, aldehyde group.

2. Concentration $(mol/dm^3) = \frac{conc.\ (g/dm^3)}{molar\ mass\ (g/mol)}$

$[\alpha]^T_l = \frac{\alpha}{C.L}$

Tartaric acid=  = $C_4H_6O_6$

Molar mass = 150 g/mol

0.856g----------$10cm^3$

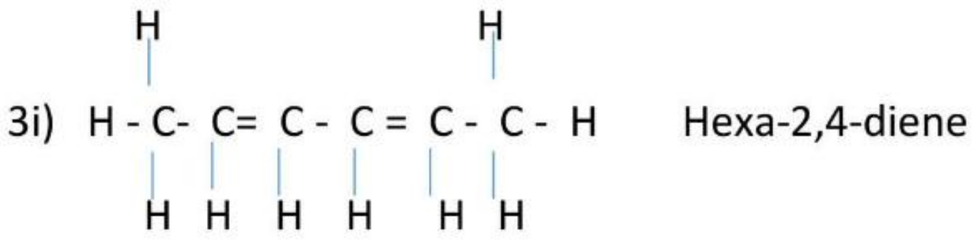
Xg----------$1000cm^3$

$\frac{0.856 \times 1000}{10} = 85.6g/dm^3$

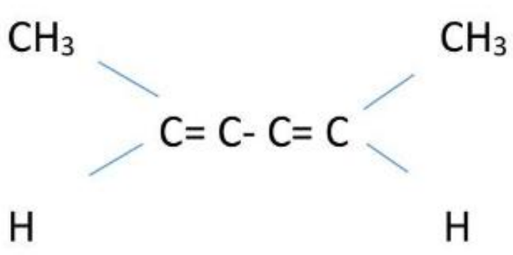
Concentration in $g/cm^3 = \frac{concentration\ in\ (g/dm^3)}{1000}$

$= \frac{85.6}{1000} = 0.0856g/cm^3$

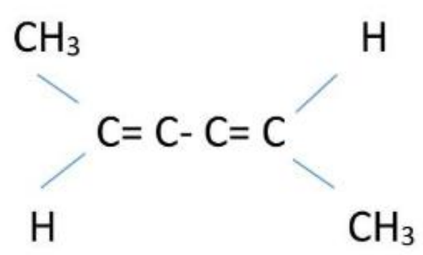
$[\alpha]^T_l = \frac{\alpha}{C.L} = \frac{4.10°}{0.0856} = 11.68°$



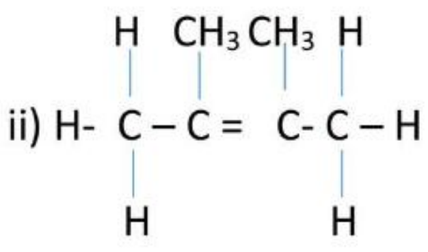
Hexa-2,4-diene



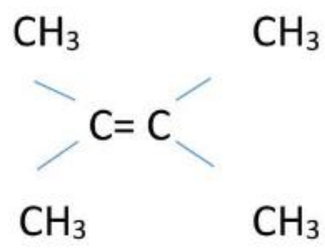
Cis-



Trans-



2-3 dimethylbut-2-ene



No geometric isomer