

Name Alexandra B. Briggs
 Course Chem 102
 Dept MBS
 M/N 19/nhs01/22

- 1) Name the functional groups present in each of the following molecules
- i) $\text{CH}_2 = \text{C}(\text{OH})\text{HCHO}$ - Alkanols, Alkene bond, COH group
 - ii) $\text{C}_6\text{H}_5\text{CH}(\text{NH}_2)\text{COCH}_3$ - Amine, Ketone
 - iii) $\text{CH}_3\text{C} = \text{CHCH}(\text{OH})\text{CHO}$ - Alkanol, Alkene bond, OH group

2) A 0.856g 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.

$$|\alpha| = \frac{d}{l \times c}$$

where l = length of sample tube d = observed rotation

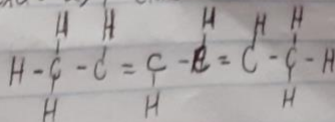
c = $\frac{\text{mass}}{\text{volume}}$ (g/dm^3) or (g/ml)

$$S_r = \frac{d}{l \times c} \quad S_r = \frac{1.0}{1 \times \left(\frac{0.856\text{g}}{10}\right)}$$

$$S_r = \frac{1}{0.0856\text{g/ml}} = 11.68\text{mlg}^{-1}\text{dm}^{-1}$$

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

i) Hexa-2,4-diene



ii) 2,3-Dimethylbut-2-ene

