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DEPARTMENT: NURSING (100 LEVEL)

COLLEGE: MEDICINE AND HEALTH SCIENCES

COURSE: CHM102

MATRIC NO: 19/MHS02/110

 ASSIGNMENT

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

a. CH2=C(OH)HCHO

b. C6H5CH(NH2)COCH3

c. CH3­C=CHCH(OH)CHO

 **ANSWER**

A.FUNCTIONAL GROUP INCLUDES:

 ⦁ ALKENE

 ⦁ ALKANOLS (ALCOHOLS)

 ⦁ ALDEHYDES

b. FUNCTIONAL GROUP INCLUDES:

 ⦁ AMINES

 ⦁ ALKANONES (KETONES)

c. FUNCTIONAL GROUP INCLUDES:

 ⦁ ALKENE

 ⦁ ALKANOL

 ⦁ ALDEHYDES

2. A 0.856g sample of pure (2R, 3R)- tatrtaric acid was diluted to 10cm3 with water and placed in a 1.0dm3 polarimeter tube. The observed rotation at 20 ͦc was +1.0 ͦ. Calculate the specific rotation of (2R, 3R)- tatrtaric acid.

 Solution

OBSERVED ROTATION = 1.0 ͦ

CONCENTRATION= MASS

 VOLUME

 0.856g = 0.0856g/cm3

 10cm3

LENGTH OF SAMPLE CELL=1.0dm

SPECIFIC ROTATION= Observed rotation in degrees = 1 =11.68 ͦg-1dm-1

 Concentration × length of cell sample 0.0856 × 1

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

I. Hexa-2, 4-diene

II. 2, 3,-Dimethylbut-2-ene

 ANSWER 1.

 CH3 H

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 C=CH-CH=C

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 H CH3

 Trans hexa-2,4-diene

 CH3 CH3

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 C=CH-CH=C

 / \

 H H

 Cis Hexa-2,4-diene

2. Geometric isomer is not possible for 2,3-Dimethylbut-2-ene.