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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

/ \

H CH3

Trans hexa-2,4-diene

CH3 CH3

\ /

C=CH-CH=C

/ \

H H

Cis Hexa-2,4-diene

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