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DEPARTMENT: PHARMACY

MATRIC NO: 19/MHS11/083

CHEMISTRY ASSIGNMENT

STEREOCHEMISTRY AND FUNCTIONAL GROUP

1. Name the functional groups present in each of the following molecule
2. CH2=C(OH)HCHO

Alkene =

Alcohol -OH

Aldehyde/carbonyl group –COH

1. C6H5CH(NH2)COCH3

Amine

1. CH3C=CHCH(OH)CHO

Alkene

Alcohol

Aldehyde

1. A 0.856g sample of pure (2R, 3R)- tartaric acid was diluted to 10cm3 with water and placed in a 1.0dmpolarimeter tube. The observed rotation at 200C was +1.00. Calculate the specific rotation of (2R, 3R)- tartaric acid.

Solution

[α] = αobserved

c \* l

αobserved = +1.00

c = o.856g/10cm3

= 0.856g/10ml

l = 1.0dm

[α] = +1.00

0.856g/10ml \* 1.0dm

= + 11.680 g-1cm3dm-1

1. Draw the possible geometric isomers (where possible) for each for each of the following compounds.
2. Hexa-2,4-diene

H C = C H Cis-cis hexa-2, 4-diene

CH3

CH3 C = C

H H

CH3 C = C H Trans-Trans hexa 2, 4-diene

H

H C = C

H CH3

CH3 C = C H Trans-cis hexa 2, 4-diene or

CH3

H C = C Cis-trans hexa 2, 4 diene

H H

1. 2,3-Dimethylbut-2-ene

CH3

C – C = C – C

CH3

ISOMERS

CH3 CH3  Cannot form geometric isomers.

C = C Each double bonded carbon has identical groups.

CH3 CH3