NAME: DALAHOL YOP MARY

MATRIC NUMBER: 19/MHS01/132

DEPARTMENT: MBBS

COURSE: CHM 102

{GENERAL CHEMISTRY II}

ASSIGNMENT

1.

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1) Name the functional group present in the following molecules.

	MOLECULES	FUNCTIONAL GROUP
i	$CH_2=C(OH)HCO$	-hydroxyl group (OH) -Aldehyde (CHO)
ii	$C_6H_5CH(NH_2)COCH_3$	-Amine (NH_2) -carbonyl group (-CO)
iii	$CH_3C=CHCH(OH)CHO$	-hydroxyl group (OH) -Aldehyde (CHO)

2) $[\alpha] = \frac{\alpha}{cl}$

where $[\alpha]$ = specific optical reaction
α = observed rotation
c = concentration in $gmol^{-1}$
l = pathlength in dm^3

$\alpha = +1.0°$

$l = 1.0 dm^3$

$C = ?$

The concentration is always measured in $gmol^{-1}$.

1 litre $= 1000 cm^3$

$1 cm^3 = 1ml$

$10 cm^3 = ? = \frac{10 \times 1}{1}$

$= 10mL$

$C = 10ml$

$\therefore [\alpha] = \frac{\alpha}{Cl} = \frac{1.0}{10 \times 10}$

$[\alpha] = 0.1°$

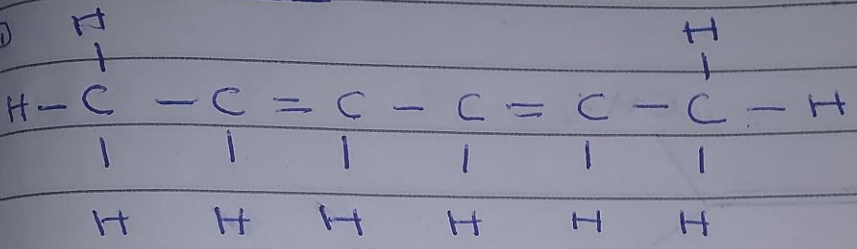
∴ The specific rotation of (2R, 3R) - tartaric acid is = 0.1°

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

① Hexa-2,4 diene [$CH_3CH=CHCH=CHCH_3$]

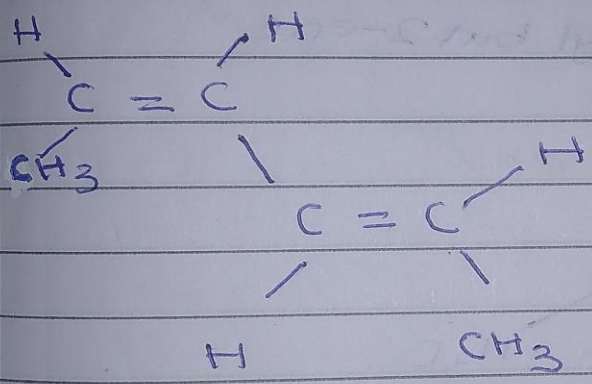
Isomers

(i)



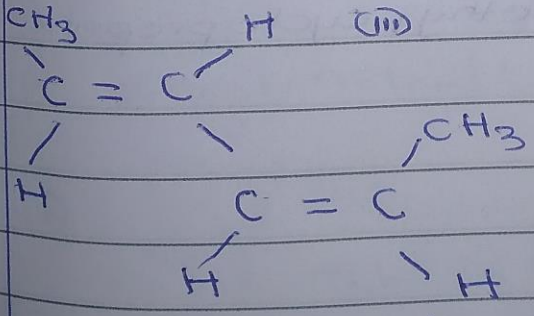
Hexa-2,4 diene

(ii)



Cis-1, trans-4,-dimethyl but 2-ene

(iii)

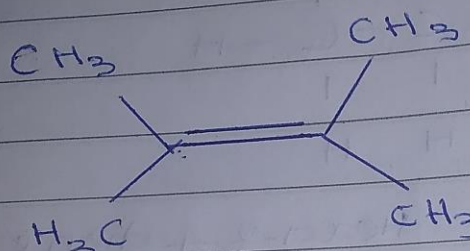


Trans-1 cis-4-dimethyl but 2-ene.

ii) 2,3-Dimethylbut 2-ene + [illegible]

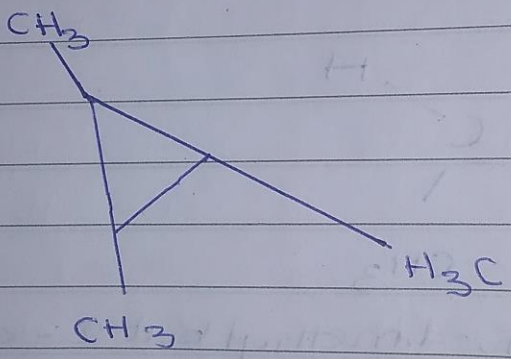
Isomers

i)



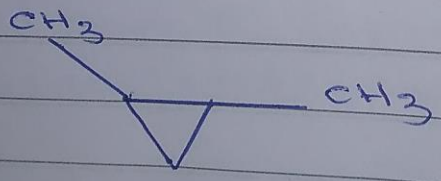
2,3 dimethyl but 2-ene.

ii)

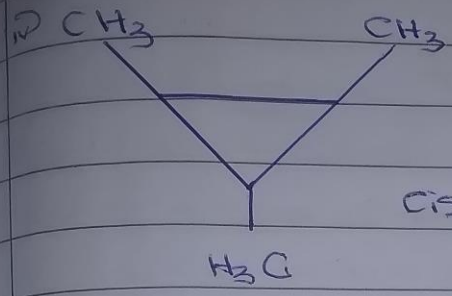


1 cis 2-trans-3-trimethyl cyclopropane

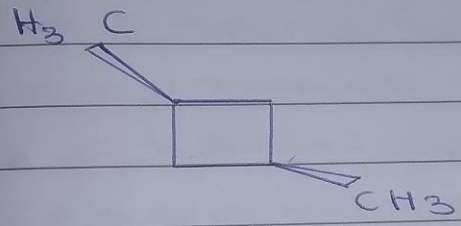
iii)



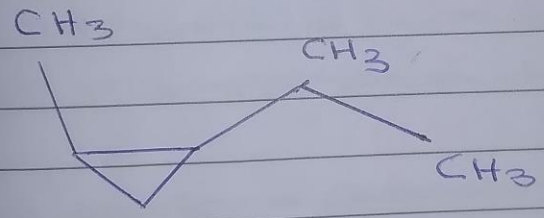
1-cis-2-trans-2 ethyl cyclopropane

iv) 

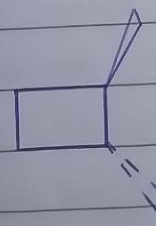
Cis -1, 2, 3 -trimethylcyclopropane

v) 

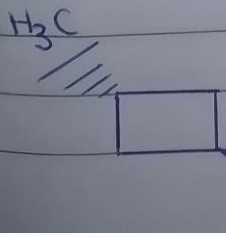
Cis 1,3 dimethylcyclo butane

vi) 

Cis - 1, methyl 2 ethyl cyclopropane

vii) 

Trans - 1, 2 - dimethyl cyclobutane



Trans - 1, 3 dimethyl cyclo butane