

8.00 Name: Uduokhai Samuel Osagie

Course: Chemistry 102

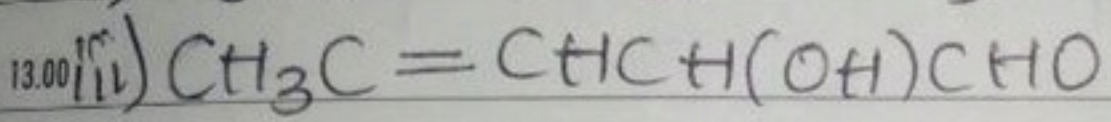
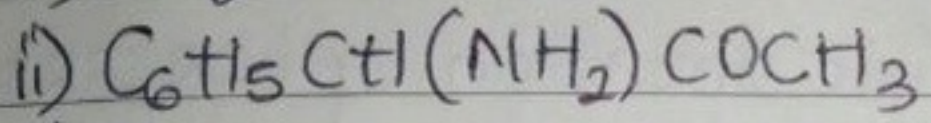
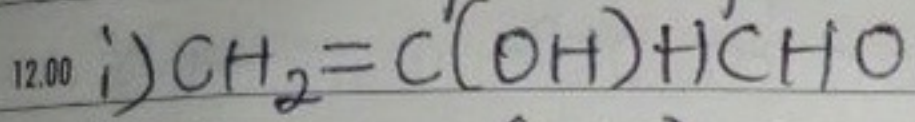
9.00 Department: Electrical Electronics Engineering

Matric No: 19/ENG041057

10.00

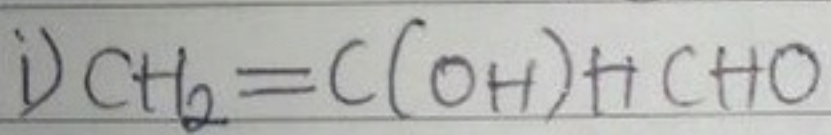
Assignment

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



14.00

Answers

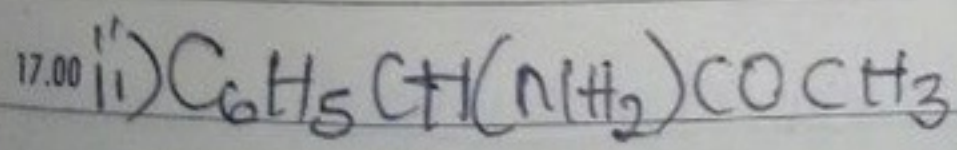


15.00 Functional group:- i) aldehyde

ii) alcohol

16.00

iii) alkene

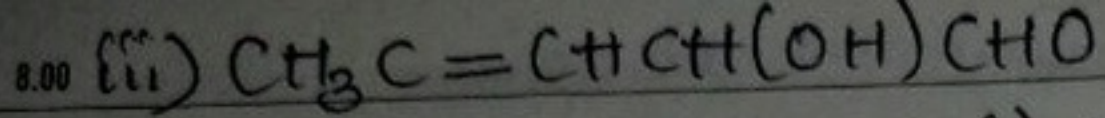


Functional group:- i) amides

ii) ketones

18.00

19.00



Functional group: - (i) Alkene

9.00 (ii) Alkanol

(iii) Aldehydes

10.00

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.

11.00 The observed rotation at 20°C was $+1.0^\circ$.

12.00 Calculate the specific rotation of (2R, 3R)-tartaric acid.

13.00

14.00 Answer

Observed rotation = 1.0°

15.00 Concentration = $\frac{0.856\text{g}}{10\text{cm}^3} = 0.0856\text{gcm}^{-3}$

16.00 Length of sample cell (polarimeter) = 1.0dm

17.00 \therefore Specific rotation = observed rotation

(concentration in gcm^{-3}) \times path length of sample cell in dm

18.00

19.00

8.00 Specific rotation of the sample = 1

$$\frac{0.856 \times 1}{10}$$

10

$$= \underline{1}$$

$$0.0856 \times 1$$

$$= \underline{11.68^\circ \text{g}^{-1} \text{cm}^3 \text{dm}^{-1}}$$

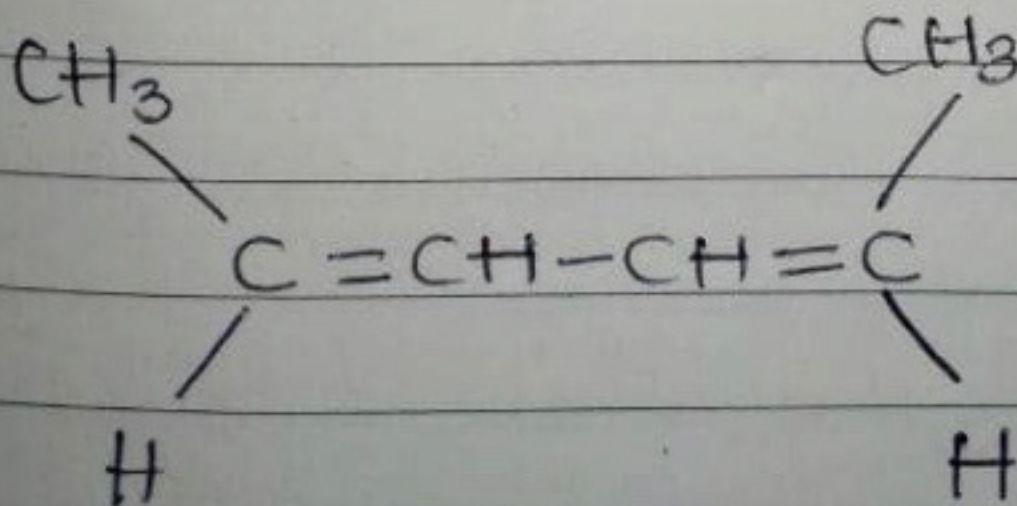
9.00
10.00
11.00
3.) Draw the possible geometric isomers (where possible) for each of the following compounds.

12.00
13.00 i) Hexa-2,4-diene

ii) 2,3-Dimethylbut-2-ene

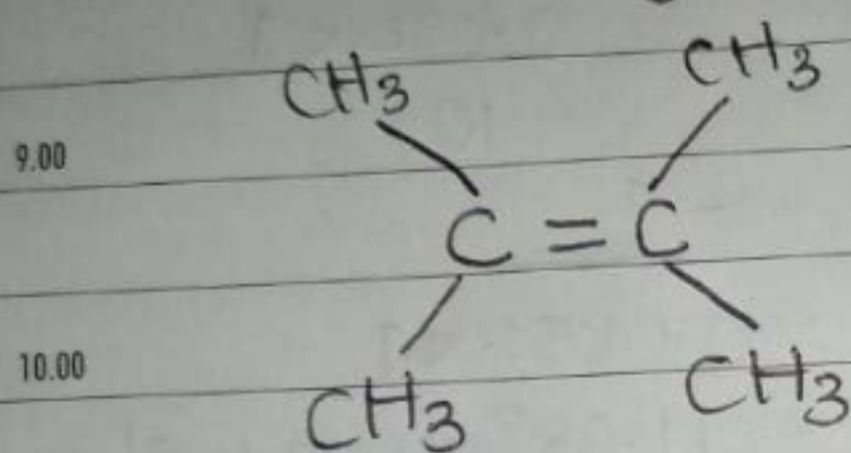
14.00
Answers

15.00 i.) Hexa-2,4-diene



16.00
17.00
18.00
19.00
Cis Hexa-2,4-diene

8.00 ii) 2,3-Dimethylbut-2-ene



11.00 Geometric isomers is not possible for
2,3-Dimethylbut-2-ene

12.00

13.00

14.00

15.00

16.00

17.00

18.00