

Adeoye Abdulwasim Omogbolahan

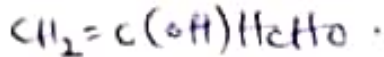
Mechanical Engineering  
19/ENG06/1002

CHM 102

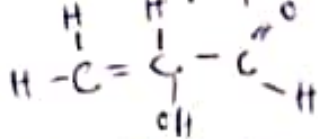
Solutions

(1)

(i)



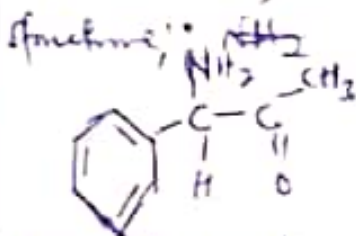
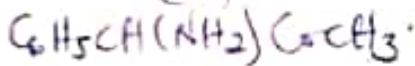
The structural formula:



functional present are;

- Double bond chain = (Alkene)
- OH (hydroxyl group)
- $\overset{O}{\parallel}C$  (alcohol)

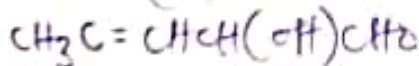
(ii)



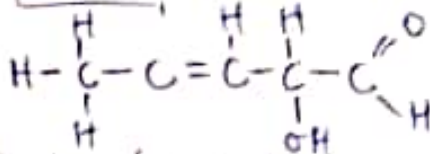
functional present

- phenyl group ( $C_6H_5$ ) with double bonds.
- Amine
- Alkaneone / ketone ( $\overset{O}{\parallel}C-R$ )

(iii)



Structure:



functional present

- Alkene ( $C=C$ )
- Hydroxyl group (OH)
- Alkaneol ( $\overset{O}{\parallel}C-H$ )

(2)

Recall;

$$[\alpha]_D^{25} = \frac{\alpha}{l \times c}$$

where

$l$  = length of sample tube

$c$  =  $\frac{\text{mass}}{\text{volume}}$  (g/dm<sup>3</sup>) or (g/ml)

$\alpha$  = observed rotation

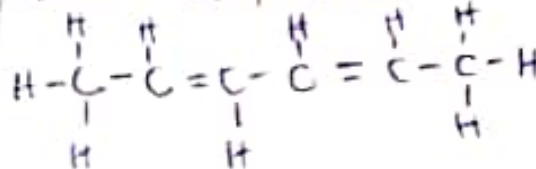
$$S_r = \frac{1.0}{1.0 \times (0.056)}$$

$$S_r = \frac{1}{0.056} = \underline{\underline{11.68}}$$

(2)

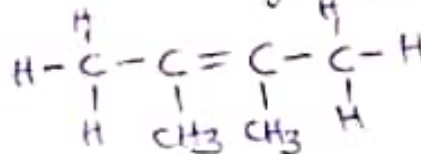
(i)

Hexa-2,4-diene

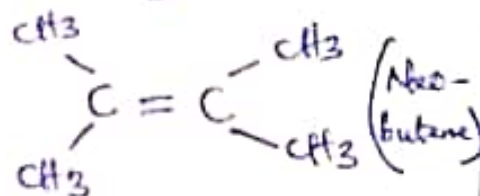


(ii)

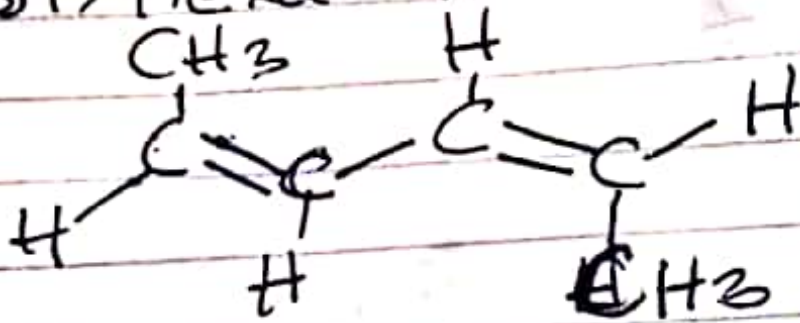
2,3-Dimethylbut-2-ene



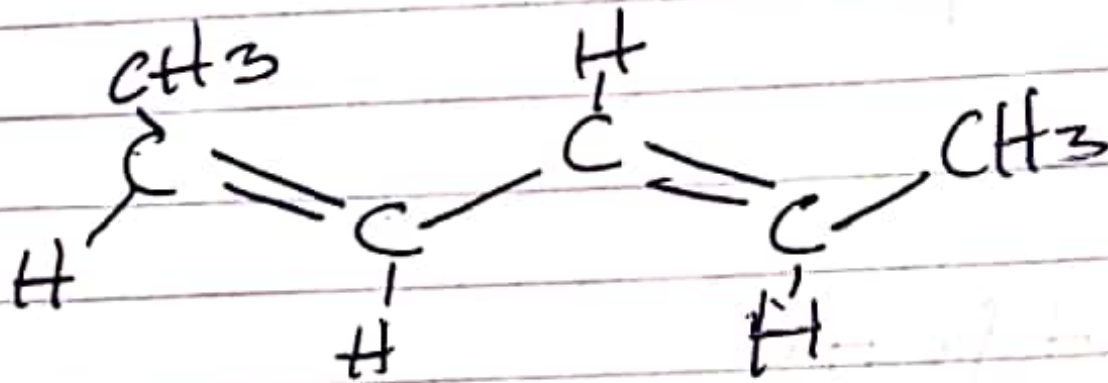
OR



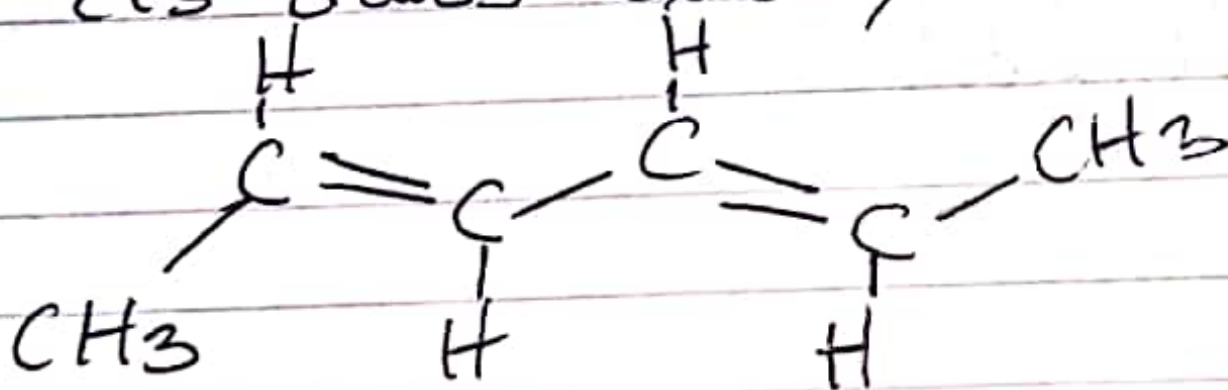
3) i) Hexa-2,4-diene



cis-cis hexa-2,4-diene



cis-trans hexa-2,4-diene



trans-trans hexa-2,4-diene

ii) 2,3-dimethylbut-2-ene

