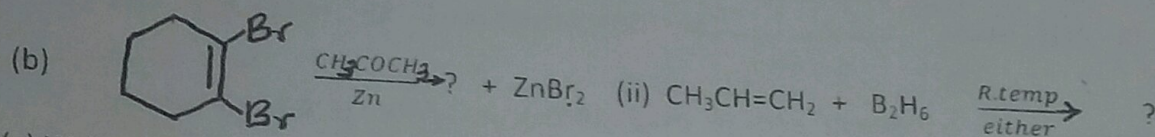
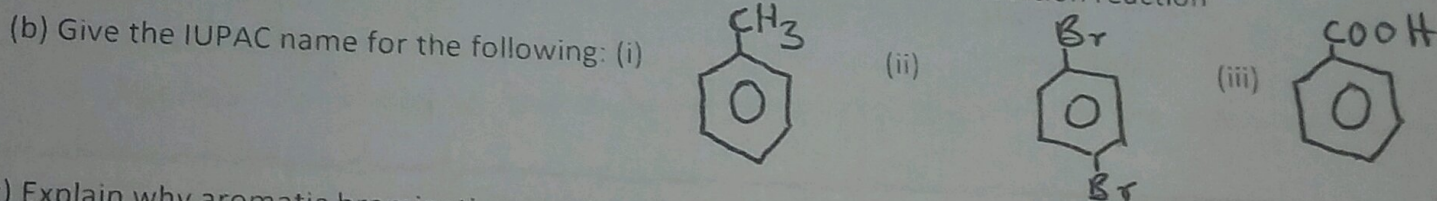


1. (a) Write the structural formulae and give IUPAC names for all isomeric alkanes of the molecular formula C_4H_{10}
 (b) Define the term 'Thermal cracking'. And complete the following equations
 (ii) $CH_3CH_2CH_3 \xrightarrow{\text{heat}} ? + ?$ (iii) $C_{17}H_{36} \xrightarrow[600^\circ C]{12 \text{ atm}} C_8H_{18} + ? + ?$
 (c) What happens when methane is chlorinated with large excess of chlorine?
 (ii) With the help of an equation explain how an alkane molecule can be obtained from an alkene.
- 2 (ai) Why do alkenes undergo addition reaction? (ii) What happens when alcohols are dehydrated with conc. H_2SO_4
 (iii) Oxidation of alkenes using $KMnO_4$ forms what?

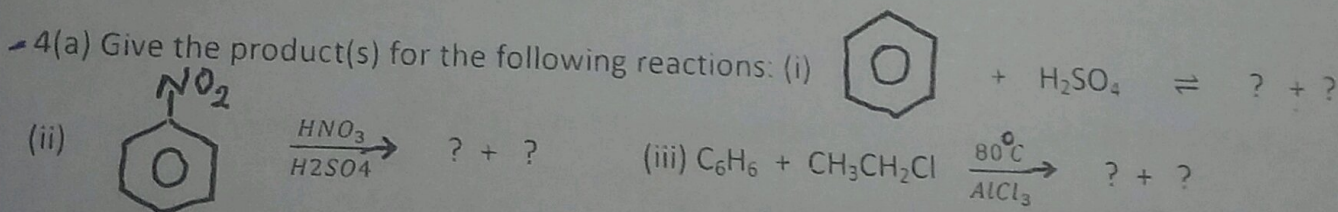


- (c) Write the structures of (i) 2-methylpropene (ii) Trans-but-2-ene (iii) 2,2,4-trimethylhexane

3. (ai) What are the common characteristics for aromatic compounds
 (ii) Explain why benzene undergoes substitution reaction instead of addition reaction



- (c) Explain why aromatic bromination requires the presence of Lewis acid whereas alkene bromination does not



- (b) Define the following (i) Functional group (ii) Homologous series

- (c) With an equation only, show the addition of water to acetylene

- 5 (a) Give the structures of the following compounds (i) Acetone (ii) Propyne (iii) But-1,3-diyne

