

Question 17 (3 marks)

Explain why alkanes and their corresponding alkenes have similar physical properties, but very different chemical properties.

3

Alkanes and their corresponding alkenes have similar physical properties because both of them contain the alkanes and alkenes contain carbon atoms and hydrogen atoms. They have almost the same molar masses and thus, ^{almost the} same boiling and melting points. However, due to the double bond in alkenes, alkenes have different chemical properties. ~~The~~ The double bond is very reactive and can be open up and join ~~a~~ other atoms or molecules. ~~Alkanes and alkenes are insoluble in water.~~ The chemical bonding makes their chemical properties different. Alkanes and alkenes are insoluble in water.