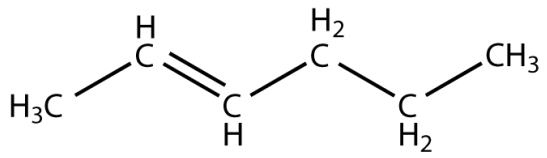
Answer on Question#52196 - Chemistry - Organic Chemistry

Why does hydroboration appear as anti-Markownik off addition ?

The anti-Markovnikov rule can be best explained by taking an example of addition of hydrogen bromide to propene in the presence of benzoyl peroxide. The reaction of HBr with substituted alkenes was instrumental in the study of free-radical additions. Early chemists discovered that the reason for the variability of the ratio of Markovnikov to anti-Markovnikov reaction products was due to the unrealized presence of free radical generating substances such as peroxides. The explanation is that HBr produces a Br radical, which then reacts with the double bond. Since the bromine atom is very large, it is more probable that it will encounter and react with the least substituted carbon, in this case the terminal carbon, to produce a primary addition product instead of a, in the case of propene, secondary addition product.

(1) b) An alkene having molecular formula C6H12 on ozonolysis yielded butanal and ethanal. (2) What is the structural formula of alkene?



hex-2-ene

c) Complete the following reactions:

(2) i) CH3CH2CH2CH = CH CH2CH3 + ??? (I am not sure that this is correct question)

ii) (CH3)2C=O + Ph3P = CH3 (is it The Wittig Reaction? If yes, there is a missed compaund)