

CHEMISTRY DAILY PLAN

Class:

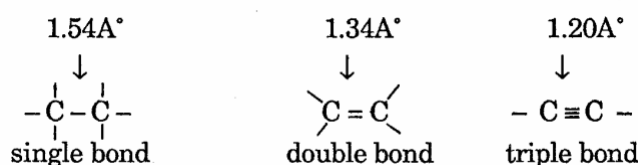
Date:

Subject: Nomenclature of Alkynes

Time:

Alkynes are unsaturated hydrocarbons that contain a carbon-carbon triple bond. The general formula of alkynes is C_nH_{2n-2} . Alkynes are also referred to as "acetylenes", after the first member of this series, acetylene itself. Acetylene, the simplest alkyne has the molecular formula C_2H_2 .

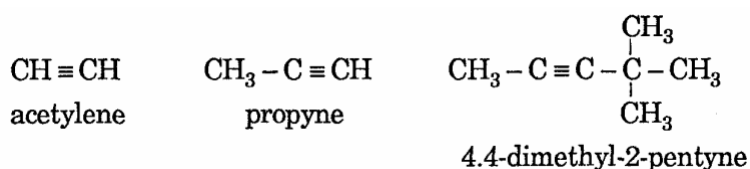
Acetylene is linear and its carbon-carbon triple bond is shorter than that of an ordinary double bond or single bond.



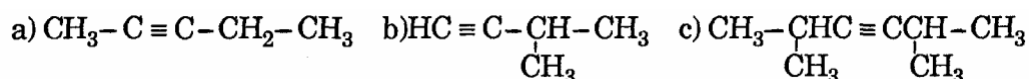
Because of their linear geometry, no cis-trans isomerism is possible for alkynes.

NOMENCLATURE OF ALKYNES

The general rules for nomenclature of alkynes are identical to those for alkenes except that the ending "**-yne**" is used to show the presence of the triple bond. The position of the triple bond is given the lowest number. Other substituents are named as before. The following examples illustrate the rules.



Example: Name each of the following alkynes by the IUPAC system.



Example: Write structural formulas for each of the following

- 3-methyl-1-pentyne
- 2,5 - Dimethyl - 3 - heptyne
- 2-butyne

Example: Write structural formula for each of the following

- 1-hexyne
- 2-methyl-3-hexyne
- 4-chloro-2-pentyne