

ORGANIC CHEM 1: HYDROCARBONS

Table P
Organic Prefixes

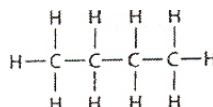
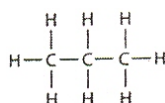
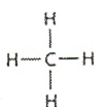
Prefix	Number of Carbon Atoms
meth-	1
eth-	2
prop-	3
but-	4
pent-	5
hex-	6
hept-	7
oct-	8
non-	9
dec-	10

Table Q
Homologous Series of Hydrocarbons

Name	General Formula	Examples	
		Name	Structural Formula
alkanes	C_nH_{2n+2}	ethane	<pre> H H H - C - C - H H H </pre>
alkenes	C_nH_{2n}	ethene	<pre> H H \ / C = C / \ H H </pre>
alkynes	C_nH_{2n-2}	ethyne	<pre> H - C ≡ C - H </pre>

n = number of carbon atoms

ALKANES:



Chemical Name:
Chemical Formula:

Draw pentane

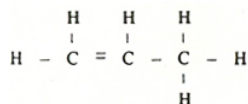
total # bonds:

Draw C_6H_{14}

saturated or unsat'd with H?

Given: $CH_3CH_2CH_2CH_2CH_2CH_2CH_2CH_2CH_3$
Name it.

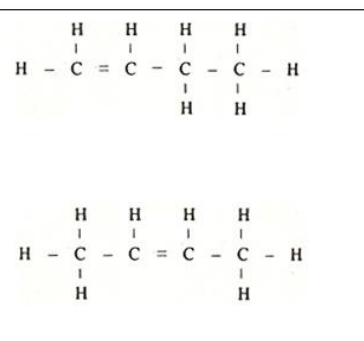
ALKENES



Chemical Name:
Chemical Formula:

Draw 2-pentene

total # bonds:

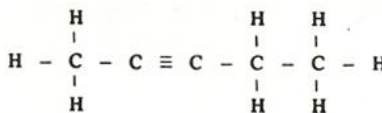
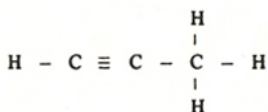


Draw C_6H_{12}

saturated or unsat'd with H?

Given: $CH_3CH_2CH_2CH_2CHCHCH_3$
Name it.

ALKYNES



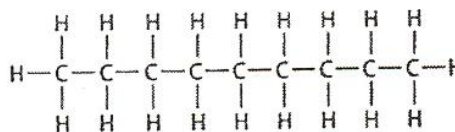
Chemical Name:
Chemical Formula:

Draw 2-butyne

total # bonds:
saturated or unsat'd with H?

CLASSWORK/HOMEWORK

Name it.

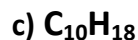


Draw 3-hexyne

total # bonds:
saturated or unsat'd with H?

Draw & Name: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CCCH}_2\text{CH}_3$

1) Based on their general formulas, classify the following compounds as ALKANES, ALKENES or ALKYNES:



2) All organic compounds must contain_____.

- a) Hydrogen b) Oxygen c) Carbon d) Nitrogen

3) Saturated hydrocarbons

- a) Contain the maximum amount of solute per 100 grams of solvent.
- b) Must contain double & triple covalent bonds.
- c) Are members of the alkane family.
- d) Have the general formula C_nH_{2n} .

4) What is the name of the 4th member of the alkene family?

5) Which of the following compounds isn't a hydrocarbon?

- a) $\text{C}_{20}\text{H}_{42}$ b) $\text{C}_6\text{H}_5\text{Br}$ c) C_6H_6 d) C_8H_{14}