HW13, Chemistry 2
Organic chemistry, Alkanes.

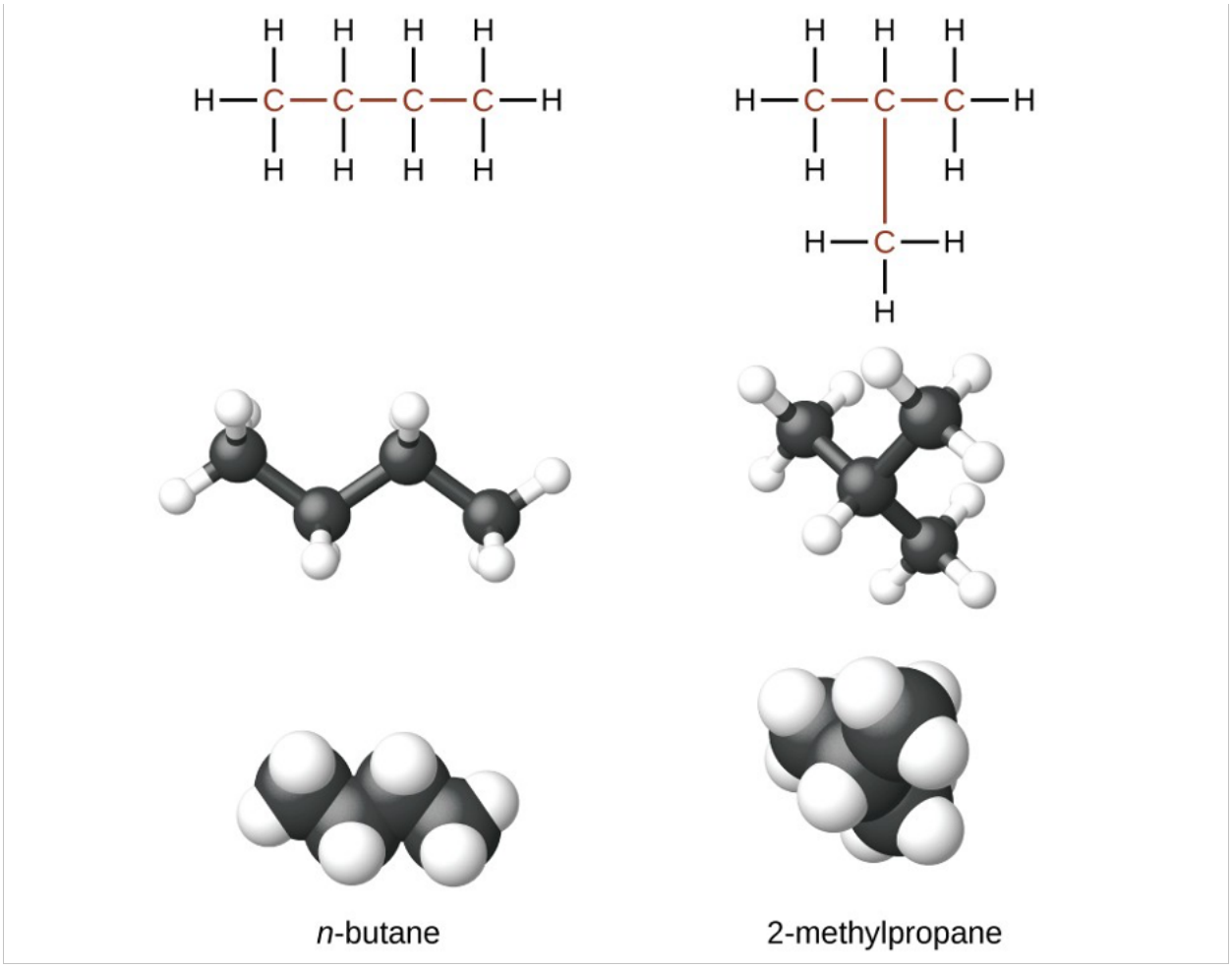
Alkanes are a class of hydrocarbon
compounds with only C-C and C-H bonds.
Acyclic alkanes - C_nH_{2n+2} , saturated hydrocarbons, they have the maximum number of hydrogen atoms per carbon.
Cycloalkanes - C_nH_{2n}, they contain carbons joined in one or more rings.

No. of C atoms	Name of alkane	Molecular formula	Name of alkyl group	Formula
1	Methane	CH_4	Methyl	$-CH_3$
2	Ethane	C_2H_6	Ethyl	$-C_2H_5$
3	Propane	C_3H_8	Propyl	$-C_3H_7$
4	Butane	C_4H_{10}	Butyl	$-C_4H_9$
5	Pentane	C_5H_{12}	Pentyl	$-C_5H_{11}$
6	Hexane	C_6H_{14}	Hexyl	$-C_6H_{13}$
7	Heptane	C_7H_{16}	Heptyl	$-C_7H_{15}$
8	Octane	C_8H_{18}	Octyl	$-C_8H_{17}$
9	Nonane	C_9H_{20}	Nonyl	$-C_9H_{19}$
10	Decane	$C_{10}H_{22}$	Decyl	$-C_{10}H_{21}$

Isomers – organic compounds in which identical chemical formula have different arrangements of atoms.

For example, C_4H_{10}: CH_3-CH_2-CH_2-CH_3 or CH_3-CH-CH_3

CH_3



Questions:

1. Write a balanced chemical reaction for the complete combustion of the following compounds: ethane, octane, nonane
2. Write the structural formula of three isomers representing compounds with chemical formula C_7H_{16}