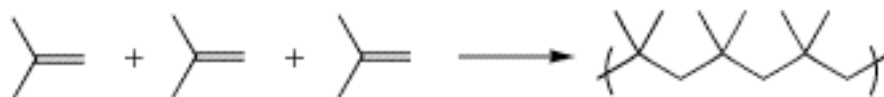
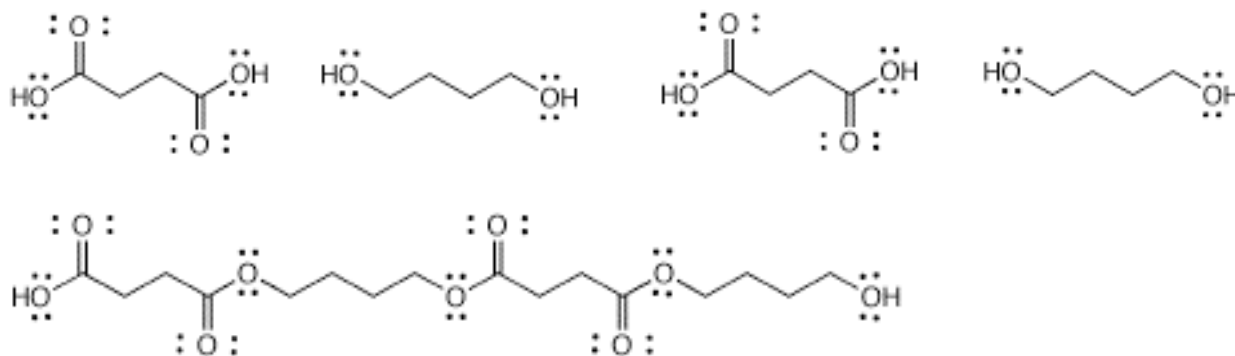


Review Questions for Unit 3 - KEY
Chem 1010

1. Draw the polymer that would result from the following monomers. Which of the polymers above is a condensation polymer, and which is an addition polymer? Are either of them copolymers?



addition polymer, not a copolymer



condensation polymer, copolymer

2. Give the correct formula for each of the following compounds.

magnesium sulfide **MgS**

cobalt(II) iodide **CoI₂**

potassium nitrate **KNO₃**

yttrium(III) carbonate **Y₂(CO₃)₃**

radium iodide **RaI₂**

zirconium (I) sulfate **Zr₂SO₄**

3. Describe what is wrong with each of the following names.

vanadium oxide **vanadium is a transition metal, so the charge has to be given**

potassium (I) cyanide **potassium is a main group metal; its charge doesn't change and shouldn't be written in the name**

scandium (+3) chloride **the charge on a transition metal should be in Roman numerals**

calcium (II) oxide **calcium is a main group metal; no charge should be written**

calcium difluoride **don't use "di" to specify how many fluorides there are**

4. Name the following compounds, and write out the ions that are present.

K_2O **potassium oxide; K^+ O^{2-}**

$Mo_2(SO_4)_3$ **molybdenum (III) sulfate; Mo^{+3} SO_4^{2-}**

$Ba_3(PO_4)_2$ **barium phosphate; Ba^{+2} PO_4^{3-}**

$AuCl_3$ **gold (III) chloride; Au^{+3} Cl^-**

$RbCl$ **rubidium chloride; Rb^+ Cl^-**

5. Fill in the blanks in the following sentences or chose the correct word.

Bases are good at dissolving grease.

Nitric acid is used in the manufacture of fertilizers and explosives.

Ammonia has a strong odor and is often found in floor and window cleaners.

Antacids are mild bases that neutralize stomach acid.

Baking soda (or sodium bicarbonate) is used to make cookies rise, absorb odors, and put out fires.

A **weak** base reacts partially with water to form hydroxide ions.

A blue color on pH paper indicates a **strongly basic** solution.

A substance that reacts with water to form hydronium ion (H_3O^+) is called **an acid**.

A substance that reacts with water to form hydroxide ion (OH^-) is called **a base**.

Acetic acid is a **weak** acid.

Acid rain contains **sulfuric** acid and **nitric** acid.

Acids have a **tart or sour** taste.

Acids react with **metals** to form hydrogen gas and an ionic compound.

All acids react with **baking soda** or **calcium carbonate** to form carbon dioxide gas and water.

Ammonia is an **base**.

An **indicator** is a compound that changes color depending on the pH of the solution.

Bases have a **bitter** taste and are **slippery** to the touch.

Citric acid is found in **citrus fruits like oranges and lemons**.

HCl is sold under the name "muriatic acid" in hardware stores.

If bleach and ammonia are mixed together, **phosgene** gas is produced.

In order to remove hard water deposits, you should use an **acidic** cleaning solution.

In the reaction $4 \text{Fe} + 3 \text{O}_2 \rightarrow 2 \text{Fe}_2\text{O}_3$, the iron atoms are **losing** electrons.

Limestone rocks are made up of **calcium carbonate**.

Litmus paper turns **pink** in the presence of an acid.

Oven cleaners typically contain **potassium hydroxide**.