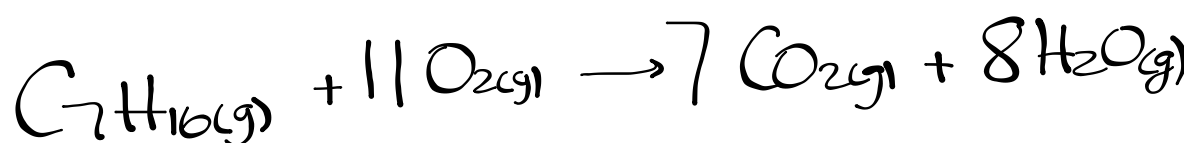
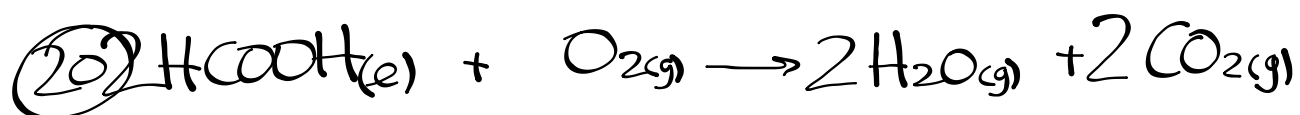
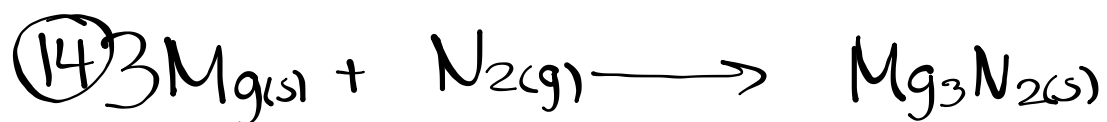


Homework - #13-16, 20,21



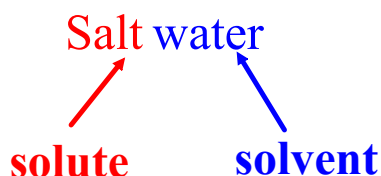
Chemical Reactions in Solution

Solution - homogeneous (uniform) mixture of a solute and a solvent.

⇒ solute - substance dissolved

⇒ solvent - substance doing dissolving (liquid)

Ex.



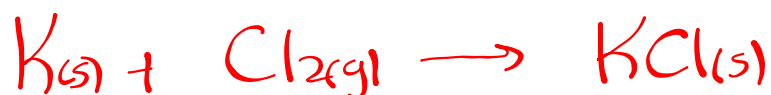
If the amount of solute that can dissolve in a solvent is large, then the solute is said to have *ahigh solubility*.

If the amount of solute that can dissolve in a solvent is small, then the solute is said to have *alow solubility*.

Solid substances formed from reactions in solutions are known as **precipitates**.

FORMATION

element + element \rightarrow compound



DECOMPOSITION

Compound \rightarrow element + elements +

COMBUSTION

element /
Compound + $O_2(g) \rightarrow$ most common
oxides



SINGLE REPLACEMENT

element + compound \rightarrow element + compound

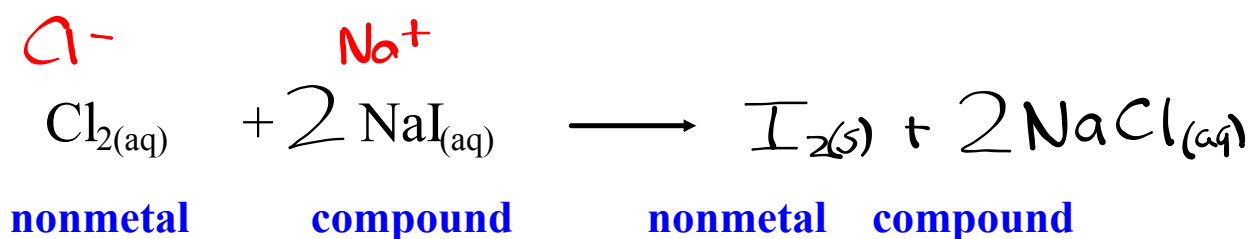
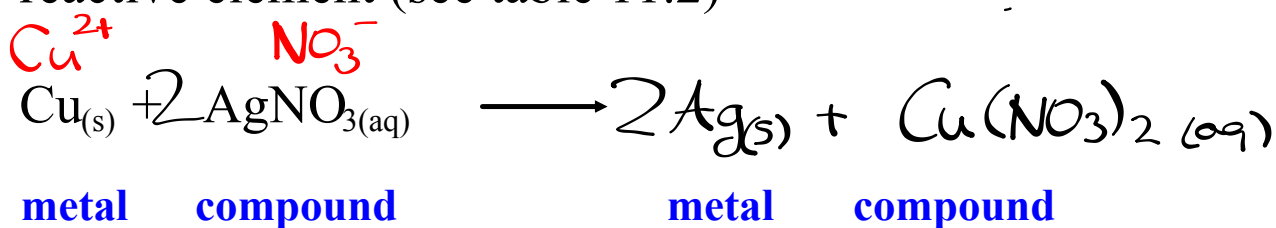
Chemical Reactions

IV. Single Replacement Reaction

Reaction of an **element with a compound** to produce a new **element and an ionic compound**.

⇒ usually occurs in aqueous solution

⇒ reaction will only occur if the element is replacing a less reactive element (see table 11.2)



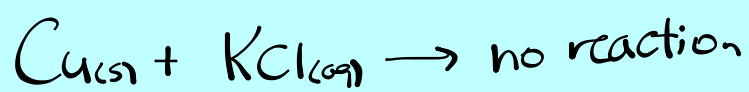


Solubility Rules

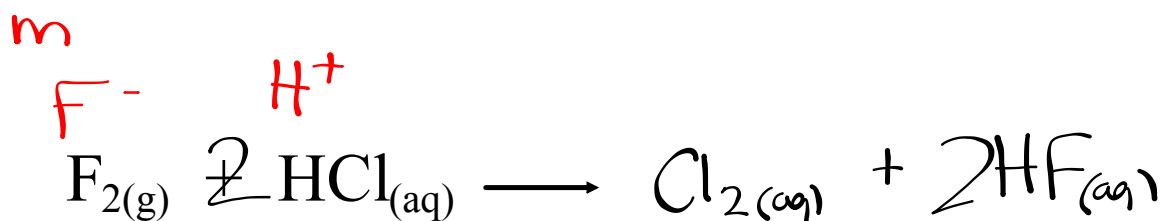
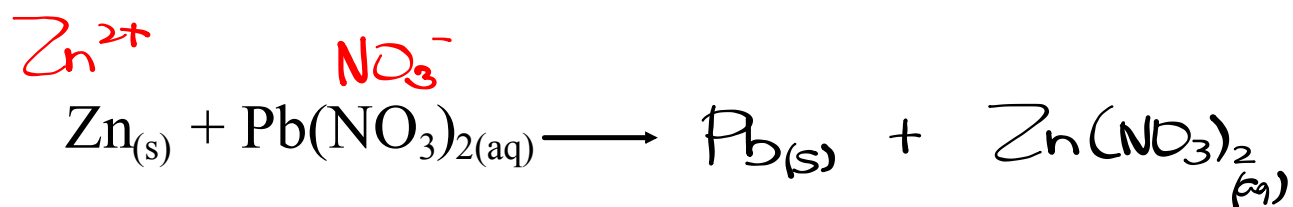
- Group 1 Compounds have a high solubility $KCl_{(aq)}$
- Compounds containing ammonium (NH_4^+) have a high solubility $NH_4Cl_{(aq)}$
- All acids have a high solubility $HCl_{(aq)}$, $CH_3COOH_{(aq)}$
- Elements have a low solubility (except chlorine)
- Solubility varies for molecular compounds X

Table 11.2
Activity Series of Metals

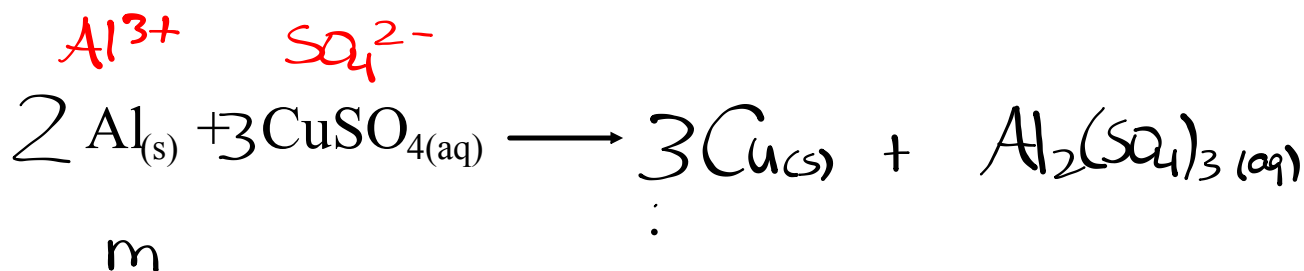
	Name	Symbol
Decreasing reactivity ↓	Lithium	Li
	Potassium	K
	Calcium	Ca
	Sodium	Na
	Magnesium	Mg
	Aluminum	Al
	Zinc	Zn
	Iron	Fe
	Lead	Pb
	(Hydrogen)	(H) ⁺
	Copper	Cu
	Mercury	Hg
	Silver	Ag



Practice Problems



nm



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