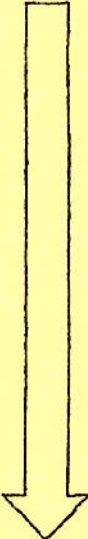


Study the following tables:

Negative Ion	Plus	Positive Ion	Form a Compound Which Is
Any negative ion	+	Alkali metal ions (Li <sup>+</sup> , Na <sup>+</sup> , K <sup>+</sup> , Rb <sup>+</sup> , or Cs <sup>+</sup> )	Soluble, i.e., >0.1 mol/L
Any negative ion	+	Ammonium ion, NH <sub>4</sub> <sup>+</sup>	Soluble
Nitrate, NO <sub>3</sub> <sup>-</sup>	+	Any positive ion	Soluble
Acetate, CH <sub>3</sub> COO <sup>-</sup>	+	Any positive ion except Ag <sup>+</sup> or Hg <sup>2+</sup>	Soluble
Chloride, Cl <sup>-</sup> , or Bromide, Br <sup>-</sup> , or Iodide, I <sup>-</sup>	+ +	Ag <sup>+</sup> , Pb <sup>2+</sup> , Hg <sub>2</sub> <sup>2+</sup> , or Cu <sup>+</sup> Any other positive ion	Not soluble Soluble
Sulfate, SO <sub>4</sub> <sup>2-</sup>	+ +	Ca <sup>2+</sup> , Sr <sup>2+</sup> , Ba <sup>2+</sup> , Ra <sup>2+</sup> , Ag <sup>+</sup> , or Pb <sup>2+</sup> Any other positive ion	Not soluble Soluble
Sulfide, S <sup>2-</sup>	+ + +	Alkali ions or NH <sub>4</sub> <sup>+</sup> , Be <sup>2+</sup> , Mg <sup>2+</sup> , Ca <sup>2+</sup> , Sr <sup>2+</sup> , Ba <sup>2+</sup> , or Ra <sup>2+</sup> Any other positive ion	Soluble Soluble Not soluble
Hydroxide, OH <sup>-</sup>	+ +	Alkali ions or NH <sub>4</sub> <sup>+</sup> Any other positive ion	Soluble Not soluble
Phosphate, PO <sub>4</sub> <sup>3-</sup> , or Carbonate, CO <sub>3</sub> <sup>2-</sup> , or Sulfite, SO <sub>3</sub> <sup>2-</sup>	+ +	Alkali ions or NH <sub>4</sub> <sup>+</sup> Any other positive ion	Soluble Not soluble

**TABLE 3-3**

Metals	Decreasing Activity	Halogens
lithium		fluorine
potassium		chlorine
calcium		bromine
sodium		iodine
magnesium		
aluminum		
zinc		
chromium		
iron		
nickel		
tin		
lead		
<b>HYDROGEN*</b>		
copper		
mercury		
silver		
platinum		
gold		

\* Hydrogen is in capital letters because the activities of the metals are often de-