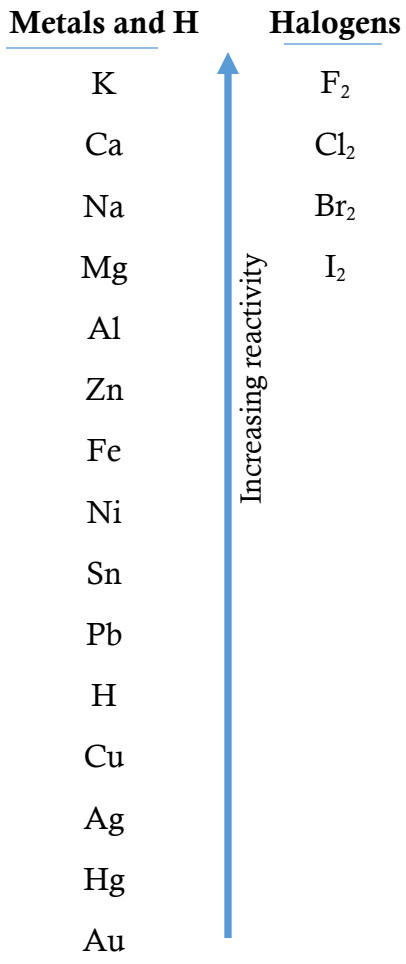
Polyatomic ions

Name	Formula
Ammonium	NH_4^+
Hydronium	H_3O^+
Acetate	$C_2H_3O_2^-$ (CH_3COO^-)
Cyanide	CN^-
Thiocyanate	SCN^-
Hydroxide	OH^-
Perchlorate	ClO_4^-
Chlorate	ClO_3^-
Chlorite	ClO_2^-
Hypochlorite	ClO^-
Iodate	IO_3^-
Bromate	BrO_3^-
Nitrate	NO_3^-
Nitrite	NO_2^-
Permanganate	MnO_4^-
Carbonate	CO_3^{2-}
Hydrogen carbonate (bicarbonate)	HCO_3^-
Sulfate	SO_4^{2-}
Hydrogen sulfate (bisulfate)	HSO_4^-
Sulfite	SO_3^{2-}
Chromate	CrO_4^{2-}
Dichromate	$Cr_2O_7^{2-}$
Peroxide	O_2^{2-}
Phosphate	PO_4^{3-}
Hydrogen phosphate	HPO_4^{2-}
Dihydrogen phosphate	$H_2PO_4^-$

Activity series for single replacement



Solubility rules for ionic compounds in water

Ammonium, alkali metals	Most salts containing ammonium (NH_4^+) and alkali metal ions (Li^+, Na^+, K^+, Cs^+, Rb^+) are soluble.
Nitrates	Nitrate (NO_3^-) salts are soluble.
Halides	Most chloride, bromide, and iodide salts are soluble. Exceptions include salts containing Ag^+, Pb^{2+}, and Hg_2^{2+}.
Sulfates	Most sulfate are soluble. Exceptions include $BaSO_4$, $PbSO_4$, Hg_2SO_4, and $CaSO_4$.
Hydroxides	Most hydroxide salts are insoluble. Important soluble hydroxides are NaOH and KOH. The compounds $Ba(OH)_2$, $Sr(OH)_2$, and $Ca(OH)_2$ are slightly soluble.
Sulfides, carbonates, chromates, and phosphates	Most sulfide (S^{2-}), carbonate (CO_3^{2-}), chromate (CrO_4^{2-}), and phosphate (PO_4^{3-}) salts are insoluble.