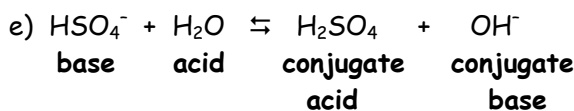
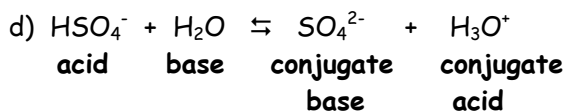
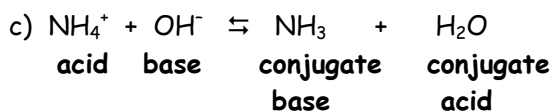
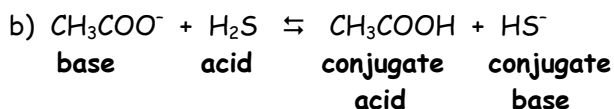
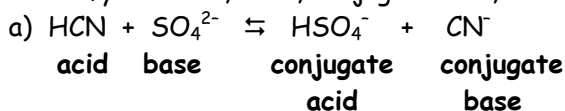
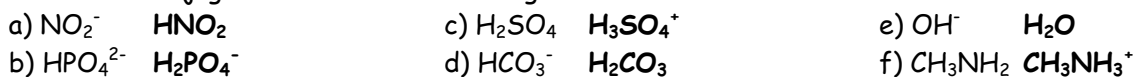


Acid-Base Theory

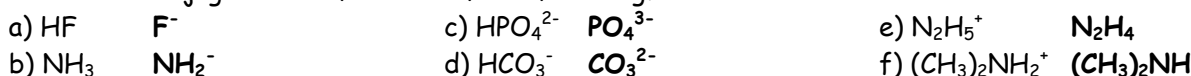
1. Identify the acid, base, conjugate acid, and conjugate base in the following reactions.



2. Write the conjugate acid for the following.



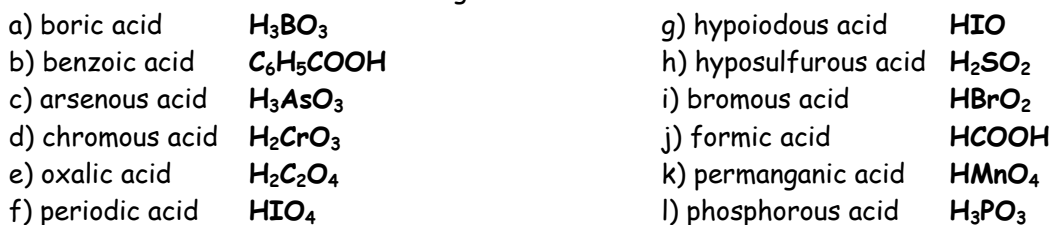
3. Write the conjugate base for each of the following.



4. Name the following acids.



5. Write the formulas for the following acids.



6. Predict the acidic or basic nature of the following anhydrides.

a) MnO_2 **basic**

c) CO_2 **acidic**

e) BaO **basic**

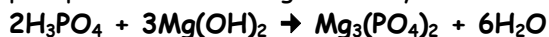
b) SO_3 **acidic**

d) Cl_2O **acidic**

f) Fe_2O_3 **basic**

7. Write the balanced neutralization reaction for each of the following.

a) phosphoric acid + magnesium hydroxide \rightarrow



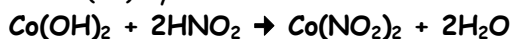
b) iron(II) hydroxide + perchloric acid \rightarrow



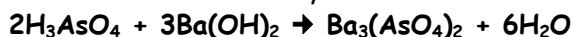
c) ammonium hydroxide + sulfurous acid \rightarrow



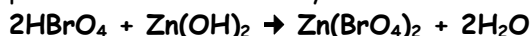
d) cobalt(II) hydroxide + nitrous acid \rightarrow



e) arsenic acid + barium hydroxide \rightarrow

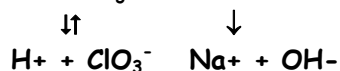


f) perbromic acid + zinc hydroxide \rightarrow



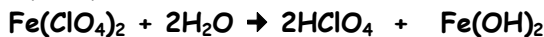
8. Write the balanced hydrolysis reactions for the following salts. Predict the acidic, basic or neutral character of the resulting solutions.

a) NaClO_3



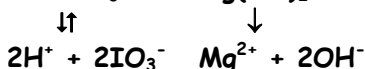
Weak acid/strong base $[\text{H}^+] < [\text{OH}^-] \therefore$ the solution is basic

b) $\text{Fe}(\text{ClO}_4)_2$



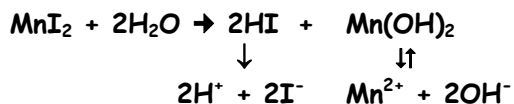
Strong acid/weak base $[\text{H}^+] > [\text{OH}^-] \therefore$ the solution is acidic

c) $\text{Mg}(\text{IO}_3)_2$



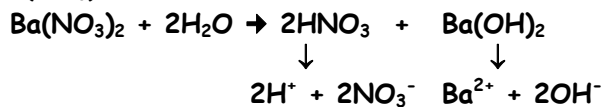
Weak acid/strong base $[\text{H}^+] < [\text{OH}^-] \therefore$ the solution is basic

d) MnI_2



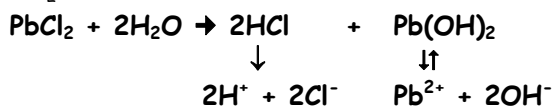
Strong acid/weak base $[\text{H}^+] > [\text{OH}^-] \therefore$ the solution is acidic

e) $\text{Ba(NO}_3)_2$



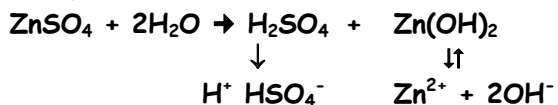
Strong acid/strong base $[\text{H}^+] = [\text{OH}^-] \therefore$ the solution is neutral

f) PbCl_2



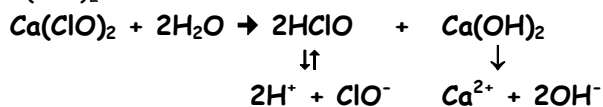
Strong acid/weak base $[\text{H}^+] > [\text{OH}^-] \therefore$ the solution is acidic

g) ZnSO_4



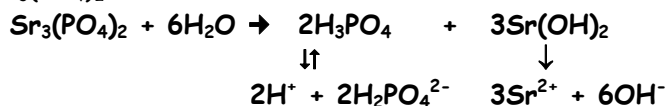
Strong acid/weak base $[\text{H}^+] > [\text{OH}^-] \therefore$ the solution is acidic

h) Ca(ClO)_2



Weak acid/strong base $[\text{H}^+] < [\text{OH}^-] \therefore$ the solution is basic

i) $\text{Sr}_3(\text{PO}_4)_2$



Weak acid/strong base $[\text{H}^+] < [\text{OH}^-] \therefore$ the solution is basic