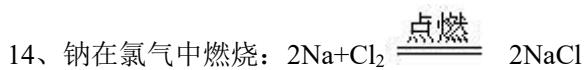
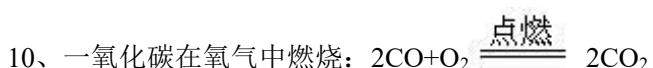
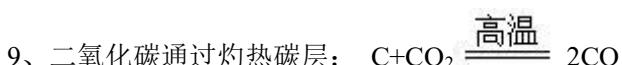
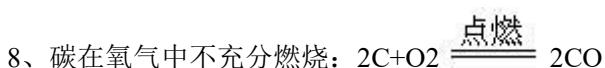
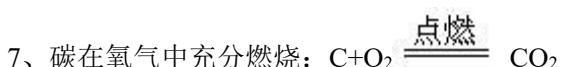
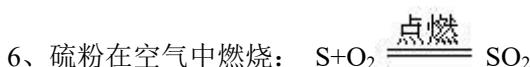
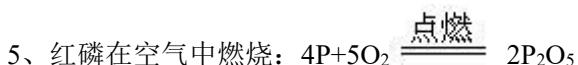
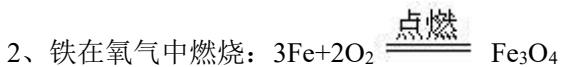
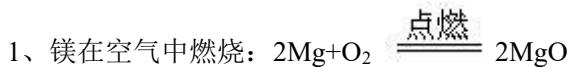
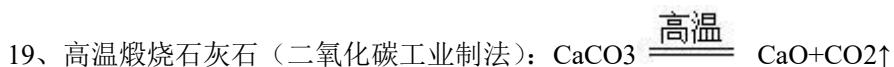
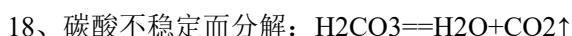
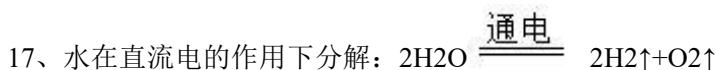
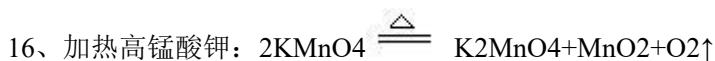
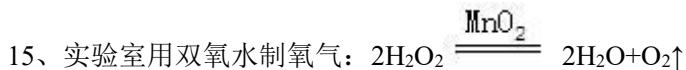


## 初中化学方程式大全

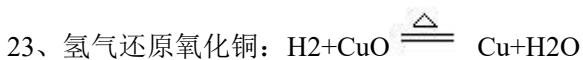
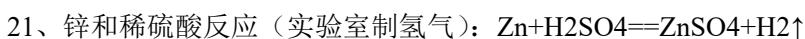
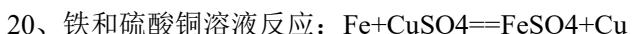
## 化合反应

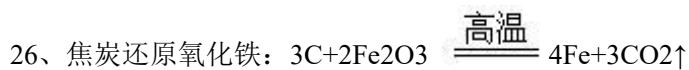
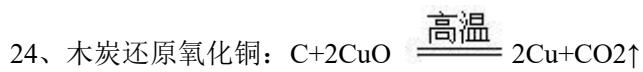


## 分解反应

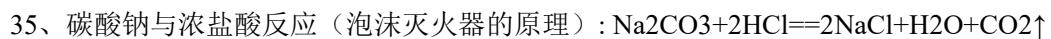
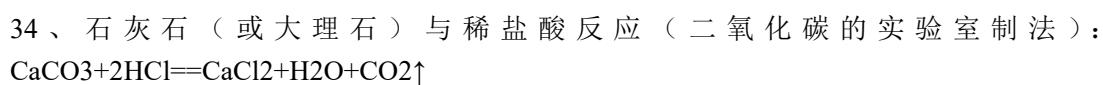
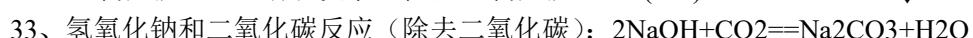
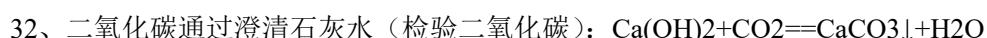
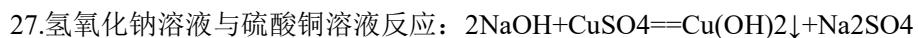


## 置换反应



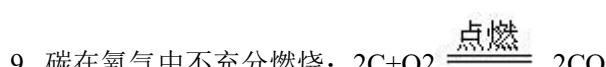
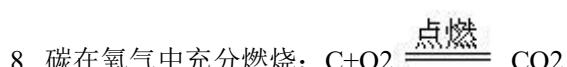
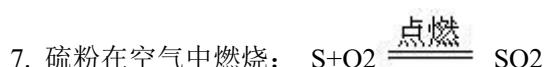
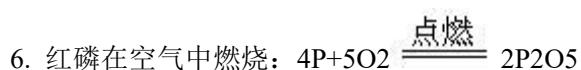
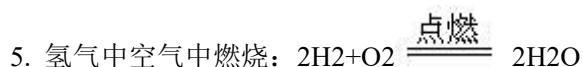
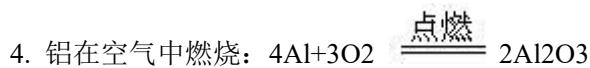
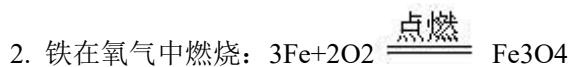
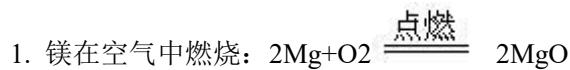


其他

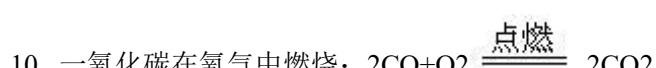


### 一. 物质与氧气的反应:

#### (1) 单质与氧气的反应:

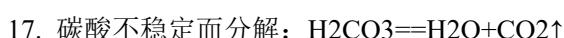
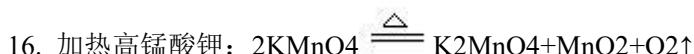
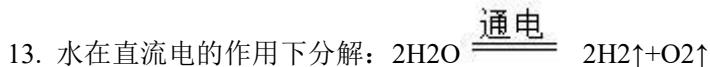


#### (2) 化合物与氧气的反应:

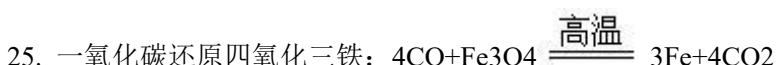
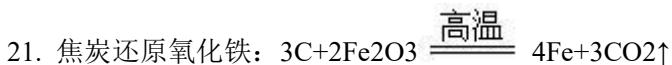




二. 几个分解反应:

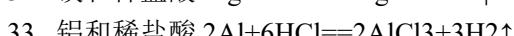
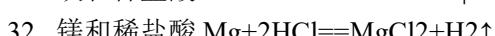
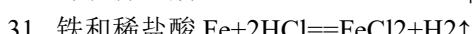
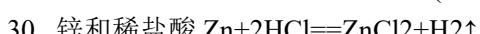
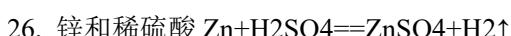


三. 几个氧化还原反应:

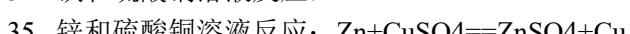
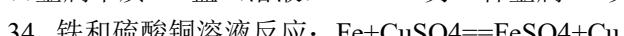


四. 单质、氧化物、酸、碱、盐的相互关系

(1) 金属单质 + 酸 ----- 盐 + 氢气 (置换反应)



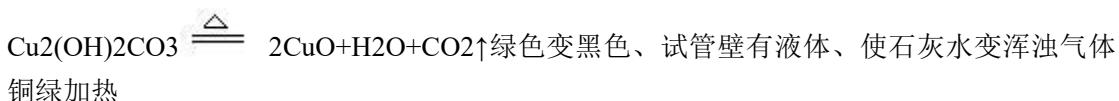
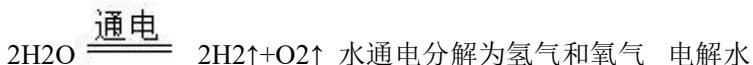
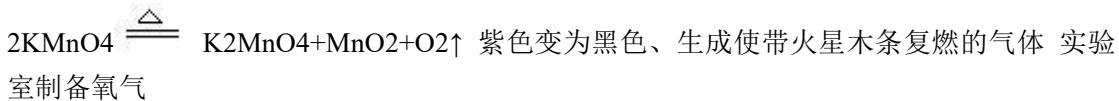
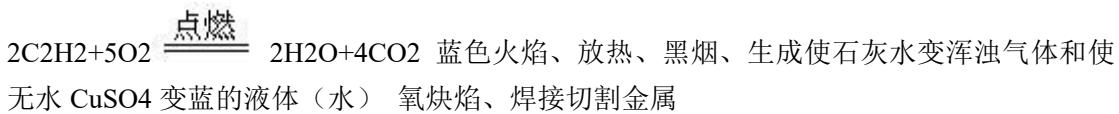
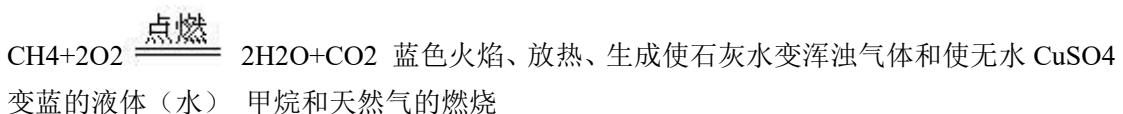
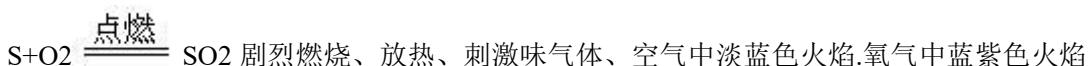
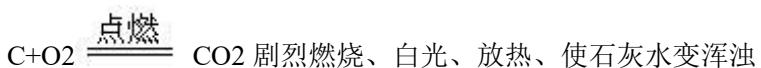
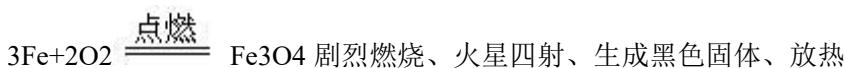
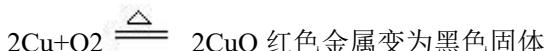
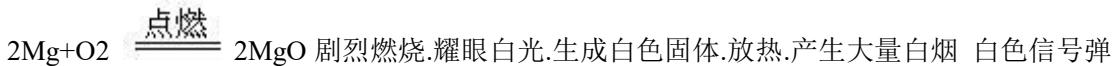
(2) 金属单质 + 盐 (溶液) ----- 另一种金属 + 另一种盐

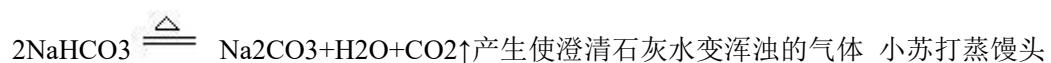
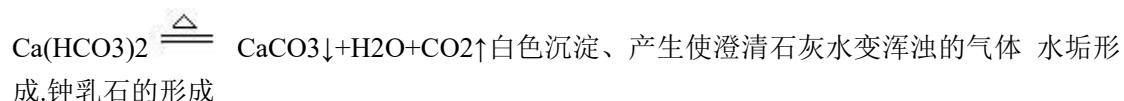
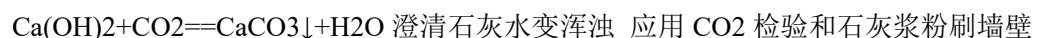
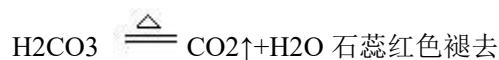
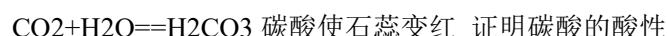
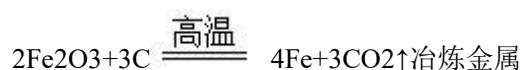
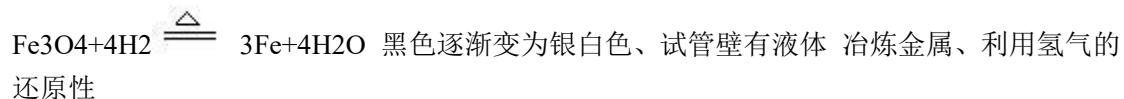
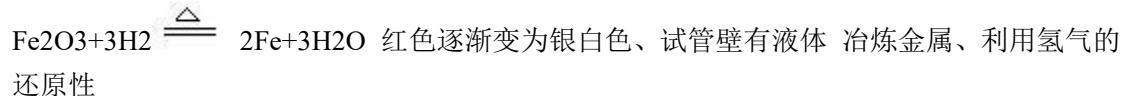
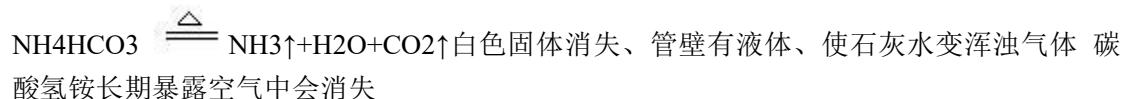


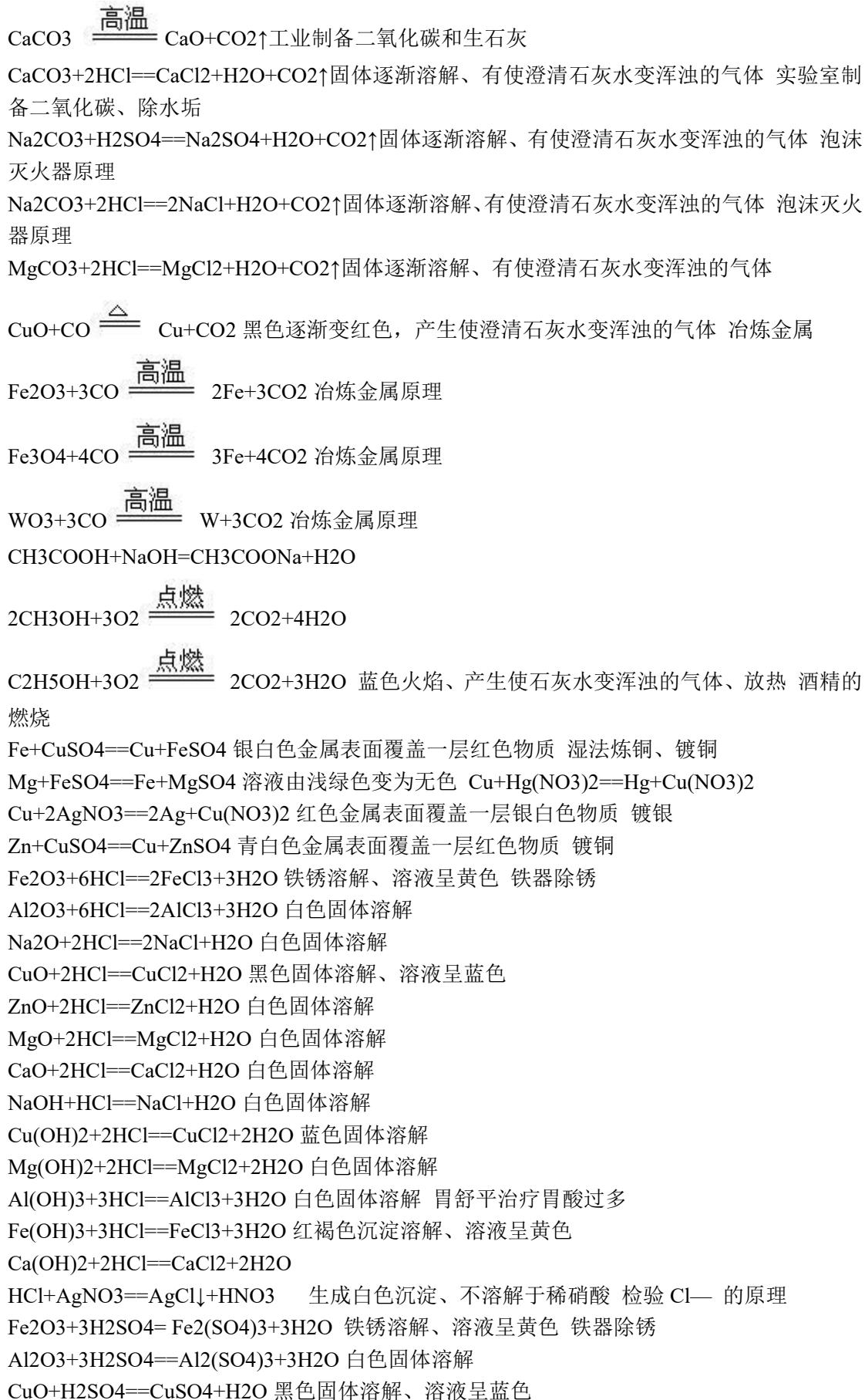
36. 铜和硝酸汞溶液反应:  $\text{Cu} + \text{Hg}(\text{NO}_3)_2 \rightleftharpoons \text{Cu}(\text{NO}_3)_2 + \text{Hg}$   
 (3)碱性氧化物 +酸 ----- 盐 + 水
37. 氧化铁和稀盐酸反应:  $\text{Fe}_2\text{O}_3 + 6\text{HCl} \rightleftharpoons 2\text{FeCl}_3 + 3\text{H}_2\text{O}$
38. 氧化铁和稀硫酸反应:  $\text{Fe}_2\text{O}_3 + 3\text{H}_2\text{SO}_4 \rightleftharpoons \text{Fe}_2(\text{SO}_4)_3 + 3\text{H}_2\text{O}$
39. 氧化铜和稀盐酸反应:  $\text{CuO} + 2\text{HCl} \rightleftharpoons \text{CuCl}_2 + \text{H}_2\text{O}$
40. 氧化铜和稀硫酸反应:  $\text{CuO} + \text{H}_2\text{SO}_4 \rightleftharpoons \text{CuSO}_4 + \text{H}_2\text{O}$
41. 氧化镁和稀硫酸反应:  $\text{MgO} + \text{H}_2\text{SO}_4 \rightleftharpoons \text{MgSO}_4 + \text{H}_2\text{O}$
42. 氧化钙和稀盐酸反应:  $\text{CaO} + 2\text{HCl} \rightleftharpoons \text{CaCl}_2 + \text{H}_2\text{O}$   
 (4)酸性氧化物 +碱 ----- 盐 + 水
43. 苛性钠暴露在空气中变质:  $2\text{NaOH} + \text{CO}_2 \rightleftharpoons \text{Na}_2\text{CO}_3 + \text{H}_2\text{O}$
44. 苛性钠吸收二氧化硫气体:  $2\text{NaOH} + \text{SO}_2 \rightleftharpoons \text{Na}_2\text{SO}_3 + \text{H}_2\text{O}$
45. 苛性钠吸收三氧化硫气体:  $2\text{NaOH} + \text{SO}_3 \rightleftharpoons \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$
46. 消石灰放在空气中变质:  $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightleftharpoons \text{CaCO}_3 \downarrow + \text{H}_2\text{O}$
47. 消石灰吸收二氧化硫:  $\text{Ca}(\text{OH})_2 + \text{SO}_2 \rightleftharpoons \text{CaSO}_3 \downarrow + \text{H}_2\text{O}$   
 (5)酸 + 碱 ----- 盐 + 水
48. 盐酸和烧碱起反应:  $\text{HCl} + \text{NaOH} \rightleftharpoons \text{NaCl} + \text{H}_2\text{O}$
49. 盐酸和氢氧化钾反应:  $\text{HCl} + \text{KOH} \rightleftharpoons \text{KCl} + \text{H}_2\text{O}$
50. 盐酸和氢氧化铜反应:  $2\text{HCl} + \text{Cu}(\text{OH})_2 \rightleftharpoons \text{CuCl}_2 + 2\text{H}_2\text{O}$
51. 盐酸和氢氧化钙反应:  $2\text{HCl} + \text{Ca}(\text{OH})_2 \rightleftharpoons \text{CaCl}_2 + 2\text{H}_2\text{O}$
52. 盐酸和氢氧化铁反应:  $3\text{HCl} + \text{Fe}(\text{OH})_3 \rightleftharpoons \text{FeCl}_3 + 3\text{H}_2\text{O}$
53. 氢氧化铝药物治疗胃酸过多:  $3\text{HCl} + \text{Al}(\text{OH})_3 \rightleftharpoons \text{AlCl}_3 + 3\text{H}_2\text{O}$
54. 硫酸和烧碱反应:  $\text{H}_2\text{SO}_4 + 2\text{NaOH} \rightleftharpoons \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O}$
55. 硫酸和氢氧化钾反应:  $\text{H}_2\text{SO}_4 + 2\text{KOH} \rightleftharpoons \text{K}_2\text{SO}_4 + 2\text{H}_2\text{O}$
56. 硫酸和氢氧化铜反应:  $\text{H}_2\text{SO}_4 + \text{Cu}(\text{OH})_2 \rightleftharpoons \text{CuSO}_4 + 2\text{H}_2\text{O}$
57. 硫酸和氢氧化铁反应:  $3\text{H}_2\text{SO}_4 + 2\text{Fe}(\text{OH})_3 \rightleftharpoons \text{Fe}_2(\text{SO}_4)_3 + 6\text{H}_2\text{O}$
58. 硝酸和烧碱反应:  $\text{HNO}_3 + \text{NaOH} \rightleftharpoons \text{NaNO}_3 + \text{H}_2\text{O}$   
 (6)酸 + 盐 ----- 另一种酸 + 另一种盐
59. 大理石与稀盐酸反应:  $\text{CaCO}_3 + 2\text{HCl} \rightleftharpoons \text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2 \uparrow$
60. 碳酸钠与稀盐酸反应:  $\text{Na}_2\text{CO}_3 + 2\text{HCl} \rightleftharpoons 2\text{NaCl} + \text{H}_2\text{O} + \text{CO}_2 \uparrow$
61. 碳酸镁与稀盐酸反应:  $\text{MgCO}_3 + 2\text{HCl} \rightleftharpoons \text{MgCl}_2 + \text{H}_2\text{O} + \text{CO}_2 \uparrow$
62. 盐酸和硝酸银溶液反应:  $\text{HCl} + \text{AgNO}_3 \rightleftharpoons \text{AgCl} \downarrow + \text{HNO}_3$
63. 硫酸和碳酸钠反应:  $\text{Na}_2\text{CO}_3 + \text{H}_2\text{SO}_4 \rightleftharpoons \text{Na}_2\text{SO}_4 + \text{H}_2\text{O} + \text{CO}_2 \uparrow$
64. 硫酸和氯化钡溶液反应:  $\text{H}_2\text{SO}_4 + \text{BaCl}_2 \rightleftharpoons \text{BaSO}_4 \downarrow + 2\text{HCl}$   
 (7)碱 + 盐 ----- 另一种碱 + 另一种盐
65. 氢氧化钠与硫酸铜:  $2\text{NaOH} + \text{CuSO}_4 \rightleftharpoons \text{Cu}(\text{OH})_2 \downarrow + \text{Na}_2\text{SO}_4$
66. 氢氧化钠与氯化铁:  $3\text{NaOH} + \text{FeCl}_3 \rightleftharpoons \text{Fe}(\text{OH})_3 \downarrow + 3\text{NaCl}$
67. 氢氧化钠与氯化镁:  $2\text{NaOH} + \text{MgCl}_2 \rightleftharpoons \text{Mg}(\text{OH})_2 \downarrow + 2\text{NaCl}$
68. 氢氧化钠与氯化铜:  $2\text{NaOH} + \text{CuCl}_2 \rightleftharpoons \text{Cu}(\text{OH})_2 \downarrow + 2\text{NaCl}$
69. 氢氧化钙与碳酸钠:  $\text{Ca}(\text{OH})_2 + \text{Na}_2\text{CO}_3 \rightleftharpoons \text{CaCO}_3 \downarrow + 2\text{NaOH}$   
 (8)盐 + 盐 ----- 两种新盐
70. 氯化钠溶液和硝酸银溶液:  $\text{NaCl} + \text{AgNO}_3 \rightleftharpoons \text{AgCl} \downarrow + \text{NaNO}_3$
71. 硫酸钠和氯化钡:  $\text{Na}_2\text{SO}_4 + \text{BaCl}_2 \rightleftharpoons \text{BaSO}_4 \downarrow + 2\text{NaCl}$
- 五. 其它反应:
72. 二氧化碳溶解于水:  $\text{CO}_2 + \text{H}_2\text{O} \rightleftharpoons \text{H}_2\text{CO}_3$



化学方程式 反应现象 应用







$ZnO + H_2SO_4 \rightarrow ZnSO_4 + H_2O$  白色固体溶解  
 $MgO + H_2SO_4 \rightarrow MgSO_4 + H_2O$  白色固体溶解  
 $2NaOH + H_2SO_4 \rightarrow Na_2SO_4 + 2H_2O$   
 $Cu(OH)_2 + H_2SO_4 \rightarrow CuSO_4 + 2H_2O$  蓝色固体溶解  
 $Ca(OH)_2 + H_2SO_4 \rightarrow CaSO_4 + 2H_2O$   
 $Mg(OH)_2 + H_2SO_4 \rightarrow MgSO_4 + 2H_2O$  白色固体溶解  
 $2Al(OH)_3 + 3H_2SO_4 \rightarrow Al_2(SO_4)_3 + 3H_2O$  白色固体溶解  
 $2Fe(OH)_3 + 3H_2SO_4 \rightarrow Fe_2(SO_4)_3 + 3H_2O$  红褐色沉淀溶解、溶液呈黄色  
 $Ba(OH)_2 + H_2SO_4 \rightarrow BaSO_4 \downarrow + 2H_2O$  生成白色沉淀、不溶解于稀硝酸 检验  $SO_4^{2-}$  的原理  
 $BaCl_2 + H_2SO_4 \rightarrow BaSO_4 \downarrow + 2HCl$  生成白色沉淀、不溶解于稀硝酸 检验  $SO_4^{2-}$  的原理  
 $Ba(NO_3)_2 + H_2SO_4 \rightarrow BaSO_4 \downarrow + 2HNO_3$  生成白色沉淀、不溶解于稀硝酸 检验  $SO_4^{2-}$  的原理  
 $Na_2O + 2HNO_3 \rightarrow 2NaNO_3 + H_2O$  白色固体溶解  
 $CuO + 2HNO_3 \rightarrow Cu(NO_3)_2 + H_2O$  黑色固体溶解、溶液呈蓝色  
 $ZnO + 2HNO_3 \rightarrow Zn(NO_3)_2 + H_2O$  白色固体溶解  
 $MgO + 2HNO_3 \rightarrow Mg(NO_3)_2 + H_2O$  白色固体溶解  
 $CaO + 2HNO_3 \rightarrow Ca(NO_3)_2 + H_2O$  白色固体溶解  
 $NaOH + HNO_3 \rightarrow NaNO_3 + H_2O$   
 $Cu(OH)_2 + 2HNO_3 \rightarrow Cu(NO_3)_2 + 2H_2O$  蓝色固体溶解  
 $Mg(OH)_2 + 2HNO_3 \rightarrow Mg(NO_3)_2 + 2H_2O$  白色固体溶解  
 $Al(OH)_3 + 3HNO_3 \rightarrow Al(NO_3)_3 + 3H_2O$  白色固体溶解  
 $Ca(OH)_2 + 2HNO_3 \rightarrow Ca(NO_3)_2 + 2H_2O$   
 $Fe(OH)_3 + 3HNO_3 \rightarrow Fe(NO_3)_3 + 3H_2O$  红褐色沉淀溶解、溶液呈黄色  
 $3NaOH + H_3PO_4 \rightarrow 3H_2O + Na_3PO_4$   
 $3NH_3 + H_3PO_4 \rightarrow (NH_4)_3PO_4$   
 $2NaOH + CO_2 \rightarrow Na_2CO_3 + H_2O$  吸收  $CO$ 、 $O_2$ 、 $H_2$  中的  $CO_2$   
 $2NaOH + SO_2 \rightarrow Na_2SO_3 + H_2O$      $2NaOH + SO_3 \rightarrow Na_2SO_4 + H_2O$  处理硫酸工厂的尾气 ( $SO_2$ )  
 $FeCl_3 + 3NaOH \rightarrow Fe(OH)_3 \downarrow + 3NaCl$  溶液黄色褪去、有红褐色沉淀生成  
 $AlCl_3 + 3NaOH \rightarrow Al(OH)_3 \downarrow + 3NaCl$  有白色沉淀生成  
 $MgCl_2 + 2NaOH \rightarrow Mg(OH)_2 \downarrow + 2NaCl$   
 $CuCl_2 + 2NaOH \rightarrow Cu(OH)_2 \downarrow + 2NaCl$  溶液蓝色褪去、有蓝色沉淀生成  
 $CaO + H_2O \rightarrow Ca(OH)_2$  白色块状固体变为粉末、生石灰制备石灰浆  
 $Ca(OH)_2 + SO_2 \rightarrow CaSO_3 \downarrow + H_2O$  有白色沉淀生成 初中一般不用  
 $Ca(OH)_2 + Na_2CO_3 \rightarrow CaCO_3 \downarrow + 2NaOH$  有白色沉淀生成 工业制烧碱、实验室制少量烧碱  
 $Ba(OH)_2 + Na_2CO_3 \rightarrow BaCO_3 \downarrow + 2NaOH$  有白色沉淀生成  
 $Ca(OH)_2 + K_2CO_3 \rightarrow CaCO_3 \downarrow + 2KOH$  有白色沉淀生成  
 $CuSO_4 + 5H_2O \rightarrow CuSO_4 \cdot H_2O$  蓝色晶体变为白色粉末  
 $CuSO_4 + H_2O \rightarrow CuSO_4 + 5H_2O$  白色粉末变为蓝色 检验物质中是否含有水  
 $AgNO_3 + NaCl \rightarrow AgCl \downarrow + NaNO_3$  白色不溶解于稀硝酸的沉淀（其他氯化物类似反应） 应用于检验溶液中的氯离子  
 $BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 \downarrow + 2NaCl$  白色不溶解于稀硝酸的沉淀（其他硫酸盐类似反应） 应用于检验硫酸根离子  
 $CaCl_2 + Na_2CO_3 \rightarrow CaCO_3 \downarrow + 2NaCl$  有白色沉淀生成  
 $MgCl_2 + Ba(OH)_2 \rightarrow BaCl_2 + Mg(OH)_2 \downarrow$  有白色沉淀生成  
 $CaCO_3 + 2HCl \rightarrow CaCl_2 + H_2O + CO_2 \uparrow$



$\text{NH}_4\text{NO}_3 + \text{NaOH} \rightarrow \text{NaNO}_3 + \text{NH}_3 \uparrow + \text{H}_2\text{O}$  生成使湿润石蕊试纸变蓝色的气体 应用于检验溶液中的铵根离子

