

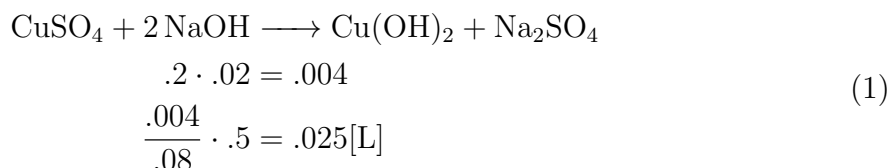
Review Set Chapter 4

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Instructor: Mr. Morgan

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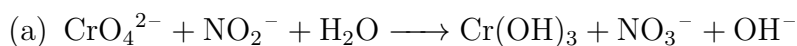
1. What volume of .08[M] solution of copper (II) sulfate is needed to react with .02[L] of .2[M] solution of sodium hydroxide? (1)



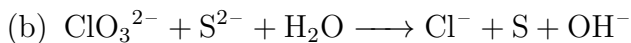
2. Give the oxidation number of each atom in the following:

- (a) $\text{N}_2\text{H}_4 \rightarrow \text{N} = -2, \text{H} = 1$
- (b) $\text{NOF} \rightarrow \text{N} = 3, \text{F} = -1, \text{O} = -2$
- (c) $\text{Sb}_4\text{O}_{10} \rightarrow \text{O} = -2, \text{Sb} = 5$
- (d) $\text{CaC}_2\text{O}_4 \rightarrow \text{Ca} = 2, \text{O} = -2, \text{C} = 3$
- (e) $\text{HSO}_4 \rightarrow \text{S} = 6, \text{H} = 1, \text{O} = -2$
- (f) $\text{Sn}^{4+} \rightarrow \text{Sn} = 4$

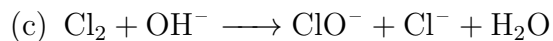
3. State which reactant is oxidized and which is reduced:



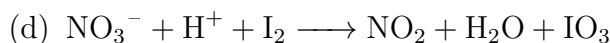
Chromium is reduced because it gained electrons, while nitrogen is oxidized because it lost electrons



Chlorine is reduced because it gains electrons, and sulfur is oxidized because it loses electrons.

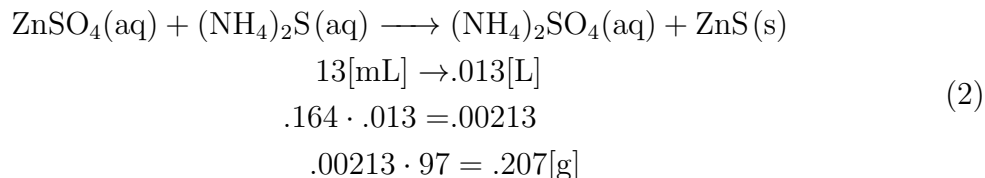


Chlorine is both reduced and oxidized.

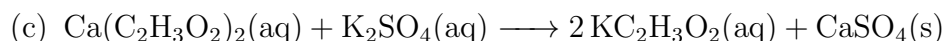
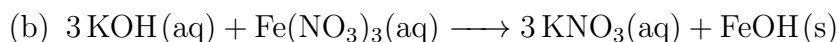
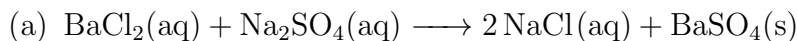


Nitrogen is reduced because it gains electrons, and Iodine is oxidized because it loses electrons.

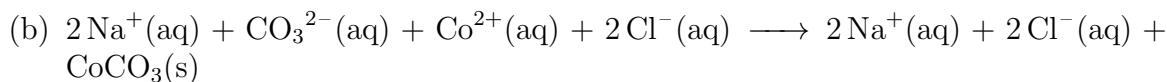
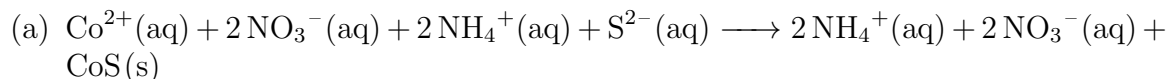
4. How many grams of solid is produced when 13[mL] of .164[M] zinc (II) sulfate is mixed with excess ammonium sulfide:



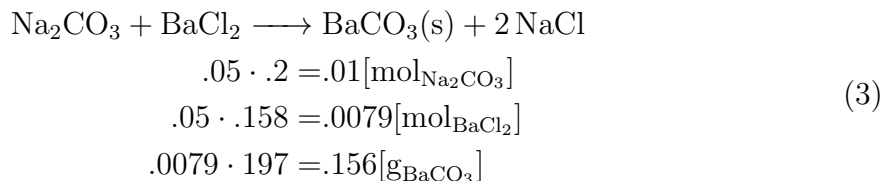
5. Complete each of the following, indicate the physical state of each product:



6. Given the following reactants, write the corresponding balanced complete ionic equation. Include physical states and any charges:



7. How many grams of solid is produced when 50[mL] of .2[M] Na_2CO_3 is mixed with 50[mL] of .158[M] of BaCl_2



8. Balance the following Redox equations:

