**Chemistry 20 – Lesson 20**

**Dissociation**

**Practice problems**

1. If the concentration of a calcium chloride solution is 0.10 mol/L, what is the concentration of each ion?

CaCl2 (s) → Ca2+(aq) + 2 Cl−(aq)





2. In an ammonium chromate solution where the ammonium ion concentration is 0.0466 mol/L, what is the concentration of the solute?

(NH4)2CrO4 (s) → 2 NH4+(aq) + CrO42−(aq)



3. 35.1 g of aluminum dichromate is dissolved to form 200 mL of solution. What is the concentration of each ion in solution?

Al2(Cr2O7)3 (s) → 2 Al3+(aq) + 3 Cr2O72−(aq)







4. 15 mL of a 0.65 mol/L solution of strontium nitrate is diluted with 85 mL of water. What is the concentration of each ion in the new solution?

Sr(NO3)2 (s) → Sr2+(aq) + 2 NO3−(aq)







**Assignment**

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**Part A**

a) sodium hydrogen sulfite

/2 **NaHSO3 (s) → Na+(aq) + HSO3−(aq)**

b) aluminum chloride hexahydrate

/2 **AlCl3 · 6H2O(s) → Al3+(aq) + 3 Cl−(aq) + 6 H2O(l)**

c) rubidium phosphate

/2 **Rb3PO4 (s) → 3 Rb+(aq) + PO43−(aq)**

d) calcium dihydrogen phosphate monohydrate

/2 **Ca(H2PO4)2 · H2O(s) → Ca2+(aq) + 2 H2PO4−(aq) + H2O(l)**

e) ammonium dichromate

/2  **(NH4)2Cr2O7 (s) → 2 NH4+(aq) + Cr2O72−(aq)**

f) silver chloride

/2 **AgCl (s) → AgCl (s)**

g) sodium oxide

/2 **Na2O (s) → 2 Na+(aq) + O2−(aq)**

h) ethanol

/2 **C2H5OH (l) → C2H5OH (aq)**

i) ammonium perchlorate

/2 **NH4ClO4 (s) → NH4+ (aq) + ClO4− (aq)**

j) barium hydroxide octahydrate

/2 **Ba(OH)2 · 8H2O(s) → Ba2+(aq) + 2 OH−(aq) + 8 H2O(l)**

Which of the compounds above will form electrolytic solutions?

/2 **All of the compounds will form electrolytic solutions except for silver chloride and ethanol.**

**Part B**

1. **Al2(SO4)3 (s) → 2 Al3+(aq) + 3 SO42−(aq)**



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2. **Na3PO4 (s) → 3 Na+(aq) + PO43−(aq)**



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3. **(NH4)2CO3 (s) → 2 NH4+(aq) + CO32−(aq)**





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4. **ZnCl2 (s) → Zn2+(aq) + 2 Cl−(aq)**





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5. **(NH4)2Cr2O7 (s) → 2 NH4+(aq) + Cr2O72−(aq)**

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6. **CaCl2 (s) → Ca2+(aq) + 2 Cl−(aq)**



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7. **NaBr (s) → Na+(aq) + Br−(aq)**





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8. **Al(NO3)3 (s) → Al3+(aq) + 3 NO3−(aq)**



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9. **K2Cr2O7 (s) → 2 K+(aq) + Cr2O72−(aq)**





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