

Name: _____ Chem 105/110 Section: _____

Lab Partner: _____ Experiment Date: _____

Electrical Conductivity of Aqueous Solutions

Conductivity Testing - Evidence for Ions in Aqueous Solution

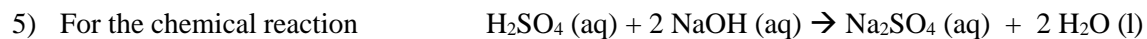
Solution	Prediction (Strong, Weak, or Non- electrolyte)	Observed Light Intensity (High, Med, None)	Conductivity (High, Low, or None)	Conclusion: (Strong, Weak, or Non- electrolyte)	Ionized? (Fully, Partially, or Not ionized)
Examples:					
NaOH (aq)	Strong electrolyte	High	High	Strong electrolyte	Fully ionized
HNO ₂ (aq)	Weak electrolyte	Medium	Low	Weak electrolyte	Partially ionized
De-ionized water, H ₂ O (l)					
Acids:					
HCl (aq)					
HF (aq)					
H ₂ SO ₄ (aq)					
CH ₃ COOH (aq)					
HNO ₃ (aq)					
HClO ₂ (aq)					
Bases:					
NH ₃ (aq)					
Ca(OH) ₂ (aq)					
HONH ₂ (aq)					
KOH (aq)					

Solution	Prediction (Strong, Weak, or Non- electrolyte)	Observed Light Intensity (High, Med, None)	Conductivity (High, Low, or None)	Conclusion: (Strong, Weak, or Non- electrolyte)	Ionized? (Fully, Partially, or Not ionized)
C ₆ H ₅ NH ₂ (aq)					
(CH ₃) ₂ NH (aq)					
Salts:					
NaCl (aq)					
NaF (aq)					
NH ₄ Cl (aq)					
Na ₂ SO ₄ (aq)					
(NH ₃) ₂ SO ₄ (aq)					
NH ₄ NO ₃ (aq)					
Unknowns:					
Unknown 1					
Unknown 2					
Unknown 3					
Unknown 4					
Unknown 5					
Unknown 6					

Questions

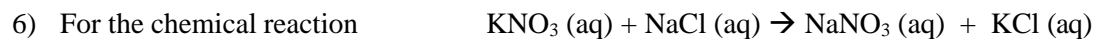
- 1) Do you think tap water would be a stronger or weaker conductor than de-ionized water? Why?

- 2) An aqueous NaCl solution acts as a strong electrolyte. Would solid sodium chloride also act as a strong electrolyte? Why or why not?
- 3) In this virtual experiment, there was only one example of a non-electrolyte. What was it?
- 4) What type of compounds act as non-electrolytes when in aqueous solution? Give at least two examples of non-electrolyte solutions.



Write the complete ionic equation:

Write the net ionic equation:



Write the complete ionic equation:

Write the net ionic equation: