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Ionic and covalent compounds exp. 2.2

### **Research question**

What is the difference between ionic and Covalent compounds? Experimentally how can we break the bonds of compounds?

### **Introduction**

The covalent compound has a very low melting and boiling point. The bonding can only form between nonmetallic elements. This covalent bond happens when two atoms share electrons. Covalent compounds do not conduct electricity. Ionic bonds have a very high melting and boiling points. These ionic bonds can only form between metals and non-metals. The permanent transfer of one or more electrons that transfer one atom to another makes an ionic bond. Ionic compounds conduct electricity.

### **Procedures**

First pour approximately 150ML of water into each beaker, put one round spatula full of sugar into one beaker of water and mix thoroughly. Next put one rounded spatula full of baking soda into another beaker of water and mix thoroughly. Be sure to use a different spatula for each beaker. Now prepare your battery with leads, lastly stick your battery with leads attached into the sugar H<sub>2</sub>O observe and record. Then stick batter with leads into baking soda solution next, observe and record.

### **Data/Observations**

Nothing happened to the sugar H<sub>2</sub>O. The baking soda and water started bubbling at the leads. The baking soda water started fuzzing and bubbling at the end of each lead. The Red wire has made blue bubbles and water had a slight blue tint.

### **Conclusion**

Ionic compounds conduct electricity. Covalent compounds do not conduct electricity. Baking soda is ionic. Sugar is a covalent compound. Metals conduct electricity and baking soda has a metal in it. So, the ionic compound conducts electricity and the baking soda is ionic and conducts electricity. A chemical reaction called oxidation made the baking soda solution bubble at the leads and turn the whole beaker filled with water plus baking soda turn a blue tint. The negative oxygen was attracted to positive Hydrogen. The positive Hydrogen is attracted to the negative wire.

Compound is a Substances that can be decomposed into elements by chemical means. A chemical reaction is a process by which one or more substances change into one or more different substances. An ionic compound is a compound formed by ions. covalent compound is a compound formed by atoms that share electrons. Electrolysis is a process by which electric current is passed through a substance to effect a chemical change. A substance that contains

different compounds and/or elements is called a mixture. solution in chemistry is the result of one or more solutes being dissolved in a solvent.