Lab 5.2

RQ- What behavior do ionic and covalent compounds exhibit when combined as a mixture?

Procedures: Same as in the book.

Vocabulary

1. Ionic Compound- A compound formed by ions.
2. Covalent Compound- A compound formed by atoms that share electrons.
3. Polar Covalent Compound- two atoms share a pair of electrons unequally because of differences in their electro-negativities.
4. Nonpolar (purely) Covalent Compound- a chemical bond formed when electrons are shared equally between two atoms.
5. Immiscible- the property where two substances cannot combine to form a homogeneous mixture.
6. Mixture- A substance that contains different compounds and/or elements.
7. Suspension- a heterogeneous mixture in which the solid particles do not dissolve, but get suspended throughout.

Data: The oil has more bubbles than the water. The salt disappeared in the water but not in the oil. The oil and the salt do not seem to mix well.

Conclusion: Salt is ionic; its formula is NaCl. Na is the metal Sodium and Cl is the nonmetal Chlorine. Water is polar covalent. Both compounds are held together by positive and negative charges, and they will be attracted to each other. Water separates the salt molecules, you see that the salt is dissolved.
(The picture is in the handwritten notes)
Oil is nonpolar covalent. It has no charges. So, it is not attracted by charges to ionic or covalent compounds. Thus, it did not dissolve the salt.

This experiment demonstrates that “Like dissolves Like.”

1. Polar covalent and ionic compounds are compatible.
2. Polar covalent and polar covalent compounds are compatible.
3. Nonpolar and nonpolar are compatible.
4. Nonpolar is not compatible with polar or ionic.