Name:		Date:	HURBAN
<b>Chemistry</b> ~ Ms. Hart	Class:	Anions or Cations	FOR CRIMI

## **8.2 Factors Affecting Solubility Homework**

- Kidney stones are solid blockages that sometimes occur in the kidney. Below is the chemical equation for a double replacement reaction between calcium chloride and sodium oxalate that results in the formation of one type of kidney stone. CaCl<sub>2</sub> (aq) + Na<sub>2</sub>C<sub>2</sub>O<sub>4</sub> (aq) → 2NaCl (aq) + CaC<sub>2</sub>O<sub>4</sub> (s)
- a. What would you expect to see in the beaker if you complete this reaction?
- b. Which compound is the kidney stone? What is your reasoning?
- c. What does "*aq*" stand for? What does this mean?

## Continue on the BACK!

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<b>Chemistry</b> ~ Ms. Hart	<u>Class:</u>	Anions	or	Cations	SCHOOL FOR CRIMINAL JUSTICE
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- d. What would you expect to see in the beaker if you complete this reaction?
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#### 2. Underline the solute and circle the solvent of each solution described.

- a. Salt dissolved in water
- b. Coffee with sugar mixed in
- c. Oxygen gas dissolved in water
- d. Water containing sucrose

- e. Powdered Kool-aid mix and water
- f. Hydrochloric acid added to water
- g. Calcium dissolved in the cytoplasm of the cell

Polar Solvents	Nonpolar solvents
Water, H <sub>2</sub> O	Hexane, $C_6H_{14}$
Ethanol, CH <sub>3</sub> CH <sub>2</sub> OH	Benzene, C <sub>6</sub> H <sub>6</sub>
Acetone, $C_3H_6O$	Toluene, C <sub>7</sub> H <sub>8</sub>

Choose a solvent from the table above for dissolving the substance given below.

- 3. Pentane,  $C_5H_{12}$
- 4. Methanol,  $CH_4O$
- 5. Isopropyl alcohol, C<sub>3</sub>H<sub>8</sub>O
- 6. Ethylene glycol,  $C_2H_6O_2$
- 7. Carbon tetrachloride, CCl<sub>4</sub>
- 8. Methane, CH<sub>4</sub>
- 9. Carbon dioxide, CO<sub>2</sub>
- 10. Acetone, C<sub>3</sub>H<sub>6</sub>O
- 11. Toluene, C<sub>7</sub>H<sub>8</sub>
- 12. Tetrahydrofuran,  $C_4H_8O$

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