

Worksheet: Solutions, Solubility

Key

1. What is a saturated solution?

A solution in which no more solute can be dissolved

2. Carbon tetrachloride is a nonpolar liquid. Water is a polar liquid. Predict which substance would be a good solvent for the following solutes:

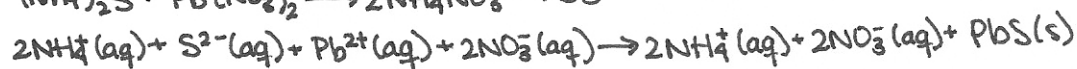
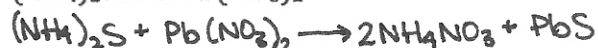
- | | |
|-----------------------------|-----------------------------|
| a. glucose (polar) | <u>water</u> |
| b. octane (nonpolar) | <u>carbon tetrachloride</u> |
| c. diethyl ether (nonpolar) | <u>carbon tetrachloride</u> |
| d. table salt (ionic) | <u>water</u> |

3. Determine whether the following are soluble or insoluble salts:

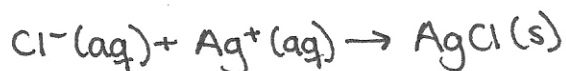
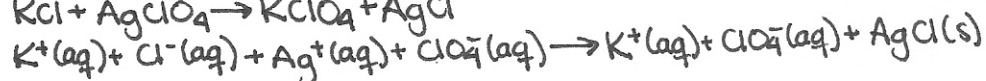
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|---------------------------------|------------------|
| a. $\text{Pb}(\text{NO}_3)_2$ | <u>soluble</u> |
| b. KOH | <u>soluble</u> |
| c. $\text{Ca}_3(\text{PO}_4)_2$ | <u>insoluble</u> |
| d. Ag_2S | <u>insoluble</u> |

4. Write a net ionic equation for the following reactions. If a precipitate does not form, write "no reaction".

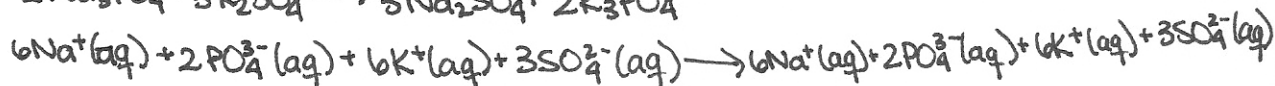
a. $(\text{NH}_4)_2\text{S}$ and $\text{Pb}(\text{NO}_3)_2$



b. KCl and AgClO_4



c. Na_3PO_4 and K_2SO_4



No reaction