Freezing Point Depression and Boiling Point Elevation

For the following compounds, classify the elements in terms of

- metal/non-metal or polyatomic (you will need your periodic table)
- type of bonding (covalent or ionic),
- moles of particles in solution for 1 mole of solute.
- Assuming a 1 mole of the solute in 1 kg of water, rank the compounds from 1-8 in terms of lowest freezing point (1) and highest freezing point (8). Ties are also possible.

Compound	Metal/non-metal	Covalent or Ionic?	Moles of particles in solution	Rank (lowest freezing point)
CH_3OH				
KCl				
$CaCl_2$				
CH_3COCH_3				
Na_3PO_4				
$Fe(NO_3)_3$				
H_2O_2				
$Fe_2(SO_4)_3$				
LiF				

Write out the equations for the dissolving of each substance below.

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Parts per Million
And
Freezing Point Depression and Melting Point Elevation Notes

What is the concentration of $O_2(g)$, in parts per million, in a solution that contains 0.008 gram of $O_2(g)$ dissolved in 1000. grams of $H_2O(l)$?

An aqueous solution contains 300. parts per million of KOH. Determine the number of grams of KOH present in 1000. grams of this solution.

If 0.025 gram of $Pb(NO_3)_2$ is dissolved in 100. grams of H_2O, what is the concentration of the resulting solution, in parts per million?

Colligative Properties

- Any property of a solvent that changes when a _____ is added to it.
- Depends only on the _____ of solute particles in the solution
- Examples:
  -
  -
  -
- Ionic compounds have a _____ effect than covalent.

Freezing Point _____when solute is added to a solvent

Boiling Point _____ when solute is added to solvent.

When ionic compounds are put in a polar solvent, what happens to them?

When molecular compounds are put in a polar solvent, what happens?