

Quiz 11.1 – The Solvation Process

Name: Key

Question 1

For each common solution, list the *solvent* and the *solute* or *solutes*

- The air around us *Nitrogen; O₂, H₂O, CO₂, etc*
- Steel *Fe; C, trace elements*
- Tears *H₂O; NaCl*
- Everclear (≥ 120 proof liquor) *CH₃CH₂OH; H₂O
(ethanol)*

Question 2

For each type of attractive force listed below, indicate whether they are *broken* or *formed* in the solvation process

Solvent-Solvent

broken

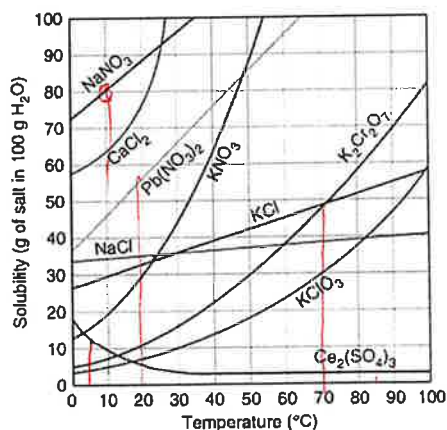
Solvent-Solute

formed

Solute-Solute

broken

Question 3

Refer to the figure of solubilities below. For each condition listed, indicate whether the solution is *saturated*, *unsaturated*, or *supersaturated*

- 50g KCl in 120g H₂O at 70°C
41.7 g/100g unsaturated
- 12g Pb(NO₃)₂ in 75g H₂O at 20°C
16 g/100g unsaturated
- 80g NaNO₃ in 100g H₂O at 10°C
saturated
- 10g Ce₂(SO₄)₃ in 150g H₂O at 5°C
6.7 g/100g unsaturated
- 10g Ce₂(SO₄)₃ in 150g H₂O at 85°C
supersaturated