

Name: _____

Honors Chemistry: ☐ yellow ☐ blue ☐ red

Solids/Liquids/Solutions Review

1. Rank the following compounds in order from weakest to strongest intermolecular force (IMF), and list the type of IMF for each one:

- HBr
- NaCl
- C₂H₄
- BaI₂
- C₆H₁₄
- PCl₃

2. How much energy would it take to heat 45 g of water from 250 K to 550 K at a pressure of 10. atm?

3. 0.5 moles of Na_2SO_4 dissolved in 250 g of water is reacted with 0.5 mol of solid CaCl_2 , at a temperature of 100°C , resulting in the following reaction:



Calculate:

- (a) The number of moles of CaSO_4 and NaCl produced (stoichiometry).
- (b) The number of *grams* of CaSO_4 and NaCl produced.
- (c) State which product(s), if any, are in solution and which product(s), if any, precipitate. (Note that some of the NaCl produced may precipitate at 100°C .)
- (d) Calculate the molality of the resulting solution.
- (e) By how many degrees Celsius would you have to raise the temperature of the resulting solution to get it to boil?