Chemistry 141 Name

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Quiz 10a (20 points) May 15, 2013

All work must be show to receive credit. Remember, significant figures are important!

Data $∆T\_{f}=iK\_{f}m, ∆T\_{fb}=iK\_{b}m, P\_{vap}=P\_{solvent}X\_{solvent}, π=iMRT, $

$$R=0.0821 {L atm}/{mol K}=62.4 {L torr}/{mol K=8.31{J}/{mol K}, } K\_{f, water}=1.86{K}/{m}, $$

1. (20 points) A solution of sodium chloride with a density of 1.0639 g/mL freezes at –5.42oC. Determine the following:
	1. What is the molality of the sodium chloride solution?
	2. What is the mass percent sodium chloride in the solution?
	3. What is the molarity of the sodium chloride solution?
	4. What is the osmotic pressure of the solution in atm at 25oC?