1) Calculate the amount of solid calcium chloride that is needed to make 200 mL of solution where Ca^{++} concentration is 0.04 M

a) 0.60 g
b) 4.44 g
c) 0.88 g
d) 8.00 g
e) 0.08 g

2) Which of the following solutions has the highest boiling point?

a) 0.02 g NaCl in 10 g of water

b) 0.0225 g urea (NH2-CO-NH2) in 10 g of water

c) 0.15% (w/w) solution of KCl in water

d) 0.12 g urea in 12 mL of ethanol

e) Aqueous solution of urea with urea mole fraction of 0.00065

3) What is the final molar concentration of urea if 50 mL of 0.03 M urea solution is diluted with 20 mL water? You may assume that volumes are additive.

a) 1.500 M
b) 2.330 M
c) 0.012 M
d) 0.021 M
e) 0.003 M

4) What is the approximate molar concentration of sodium sulfate in 0.00001 molal aqueous sodium sulfate solution at 4 °C (water density at 4° is 1.000 g/mL)?

a) 0.00010 M
b) 0.00002 M
c) 0.00584 M
d) 0.00001 M
e) 0.00004 M