

**CHEMISTRY 31**

Quiz 4 – 10 min

Spring, 2017

Name \_\_\_\_\_

Lab Sect. Number \_\_\_\_\_

1. In a precipitation titration,  $\text{Ba}^{2+}$  is added out of a buret to a flask containing  $\text{SO}_4^{2-}$  forming solid barium sulfate. The concentration of initial ions and volumes is known. In order to determine  $[\text{Ba}^{2+}]$  at a point before the equivalence point where the volume of  $\text{Ba}^{2+}$  added is measured, you want to first calculate:

- a) the initial  $[\text{Ba}^{2+}]$  in the buret
- b) the excess  $[\text{Ba}^{2+}]$  in the flask
- c) the mass of solid  $\text{BaSO}_4$  in the flask
- d) the excess  $[\text{SO}_4^{2-}]$  in the flask

(4 pts)

2. A compound is known to have a molar absorptivity of  $731 \text{ M}^{-1} \text{ cm}^{-1}$  at a wavelength of 382 nm in water (solvent). A cell with path length of 0.200 cm is filled with the compound and the absorbance is measured to be 0.103. Determine the concentration of the compound. (6 pts)