Due: Thursday, Feb. 23; (BEFORE class starts)

Please do the problems indicated. Show all work and write neatly. Partial credit cannot be awarded if work is not shown or cannot be read. NOTE: there are two questions here.

1. Write the $\lambda_{\text{max}}$ that you found for CoCl$_2$ using the Vernier UV-vis spectrophotometer:

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2. a. Write the balanced precipitation reaction that results (don’t forget phases; solubility rules are given below) from mixing aqueous solutions of CoCl$_2$ and Na$_2$CO$_3$.

Solubility Rules (apply in order)
1. All Li$^+$, Na$^+$, K$^+$, and NH$_4^+$ salts are soluble.
2. All NO$_3^-$, C$_2$H$_5$O$_2^-$, ClO$_3^-$, and ClO$_4^-$ salts are soluble.
3. All Ag$^+$, Pb$^{2+}$, and Hg$^{2+}$ salts are insoluble.
4. All Cl$^-$, Br$^-$, and I$^-$ salts are soluble.
5. All CO$_3^{2-}$, O$^{2-}$, S$^{2-}$, OH$^-$, SO$_4^{2-}$, HPO$_4^{2-}$, CrO$_4^{2-}$, Cr$_2$O$_7^{2-}$, and PO$_4^{3-}$ salts are insoluble, except CaS, SrS, BaS and Ba(OH)$_2$.
6. All SO$_4^{2-}$ and C$_2$O$_4^{2-}$ salts are soluble except Ca$^{2+}$, Sr$^{2+}$, and Ba$^{2+}$.

b. Give the mass of solid compound that you obtained in lab:

__________________________ g

c. Based on the laboratory conditions stipulated (Prelab, part II, #1, part c), calculate the percent yield of your solid compound formed. Show all work!