

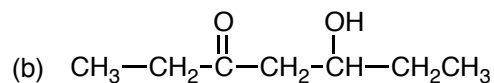
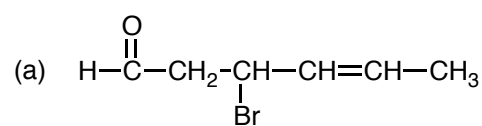
Name

L.I.U.

Chem. 122, Sect 007,

Quiz 2, 50 pts, Spring, 2011

1. Name the following compounds. (10 pts)



2. Looking at molecules **A** and **B** shown below, predict the one which would have the greatest hydration constant in both acidic ($\text{H}_3\text{O}^+/\text{H}_2\text{O}$) and basic ($\text{NaOH}/\text{H}_2\text{O}$) conditions and show both reactions for the molecule that you choose, giving the complete reaction mechanism in each case. **You need to do this ONLY for one of the molecules.** (20 pts)



3. Show the reactions that occurs between benzaldehyde ($\text{C}_6\text{H}_5\text{CHO}$) and 2,4-dinitrophenylhydrazone [$\text{H}_2\text{NHC}_6\text{H}_4(2,4-\text{NO}_2)_2$], giving all of the steps of the mechanism. (7 pts)

4. One student's unknown gave a positive Tollen's test (it formed a silver mirror) and formed a blue-green precipitate with chromic acid. The semi-carbazone had an m. p. of 98-103°C and the 2,4-DNP had an m. p. of 115-121°C. Choose the best match for her compound from those listed below. (7 pts)

	<u>semicarbazone</u>	<u>2,4-DNP</u>
2-pentanone	103	117
n-heptaldehyde	109	108
n-butyraldehyde	106	123

5. One student missed the first week of the acetanilide experiment and so to catch up with the class in the second week, she decided to skip the first step of the experiment and to do the nitration using nitric acid and sulfuric acid directly on aniline ($\text{C}_6\text{H}_5\text{NH}_2$). Was this a good idea? Explain briefly and show what product(s), if any, she would obtain from her reaction. (6 pts)