

CHEM 258 – Spring _____
Unknown B - Identification Report

Name _____

Unk # _____

1. (15 pts) List all major ^1H -NMR peaks and the conclusions about your unknown they infer (attach spectrum to report).

	Chemical Shift	Integration	Splitting	Conclusion
1.				
2.				
3.				
4.				
5.				

2. (5 pts) List ALL Possible functional groups based upon preliminary data and ^1H -NMR. Use an additional sheet if necessary.

	Possible Functional Group	Evidence
1.		
2.		
3.		
4.		
5.		

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3. (10 pts) ALL Possible compounds based upon preliminary data, chemical formula, and ^1H -NMR. Use an additional sheet if necessary. Be sure to place the name of the derivative on the appropriate line.

	Name	Structure	mp or bp
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

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4. (10 pts) Structure and name of your unknown:

5. (35 pts) On an attached page justify the structure provided above for you unknown. Provide a summary of your results and explain how you arrived at your identity. This is basically a story of what you did in a concise, scientific matter. This is a narrative NOT a list. The narrative should include at least the following information:

- a) Results that support your conclusion.
- b) Results, if any, that are contradictory to your conclusion.
- c) Attach IR and NMR spectra and fully interpret on the spectra by assigning all possible peaks. Also, discuss your spectroscopic data in the narrative. Be sure to discuss how the integration, splitting, and chemical shifts for each peak in your ^1H -NMR spectra prove the identity of your unknown.