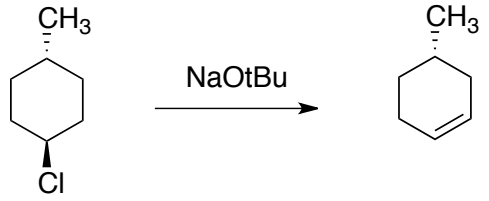
Chem 331
Fall 2011
Exam 2
open book, notes

Your Name_____

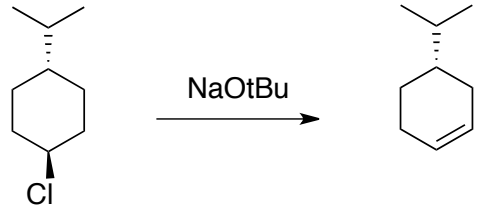
Your Name_____

1. For each pair, **circle the reaction that is faster**. Explain your reasoning in detail. Your answer should include drawings of cyclohexane conformations. No credit for a correct guess, only a correct explanation. (10 points each)

a



b



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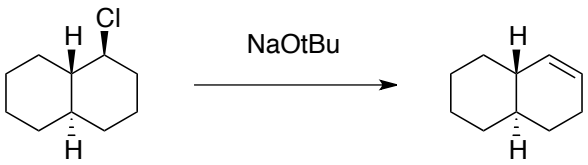
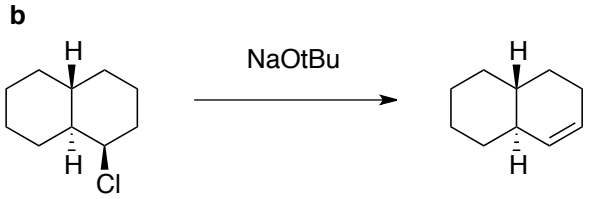
a

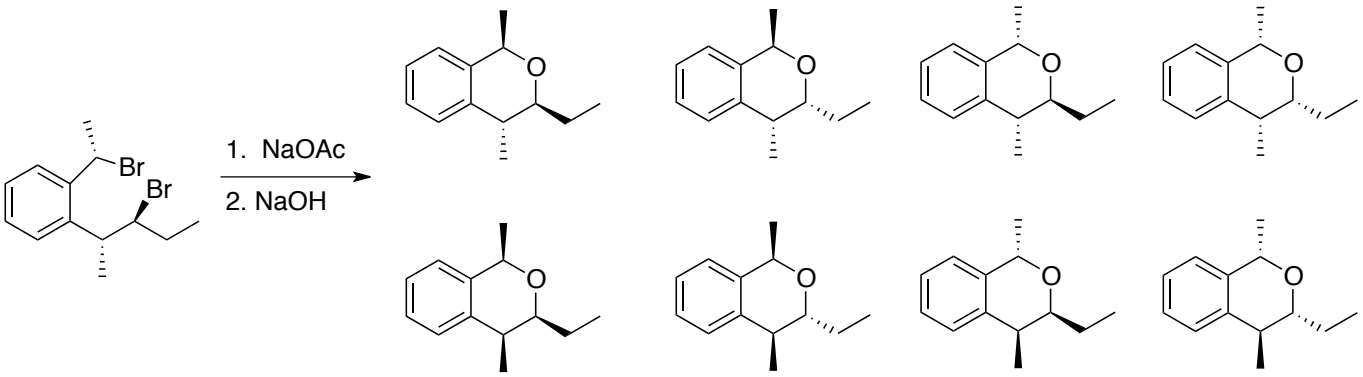


b



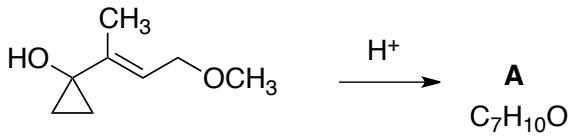
Your Name_____

2. Circle the correct product. Give a detailed mechanism (with attention to stereochemical details) that explains your choice. (20 points)



Your Name_____

3. Provide a structure for **A** and a detailed arrow pushing mechanism for it's formation (20 points)



spectral properties of **A**

^{1}H NMR	^{13}C NMR
5.94 (dd, J = 16.8, 10.0 Hz, 1H)	210.1, s
5.24 (dd, J = 10.0, 2.1 Hz, 1H)	145.5, d
5.21 (dd, J = 16.8, 2.1 Hz, 1H)	112.6, t
3.08–3.00 (m, 2H)	56.7, s
2.04–1.91 (m, 2H)	42.1, t
1.35 (s, 3H)	28.6, t
	19.7, q

scratch paper

4. Provide a detailed arrow pushing mechanism for the following transformation (20 points)