

First Midterm Exam  
[Chapters 5-7 (Carey textbook)]

CHE201A-C  
Professor Diver and Dr. Clizbe

Oct. 24, 2014  
Fall 2014

Version A  
(Exam duration: 1 h 30 min)

NAME: \_\_\_\_\_

*circle one:* Dr. Clizbe or Dr. Diver *and:* Section ( A, B, C )

TA Name: \_\_\_\_\_ or CHE203

Page	Total Possible Points (Possible Points per page)	Points
2	30	
3	14	
4	22	
5	22	
6	30	
7	20	
8	15	
9	Periodic Table	

TOTAL POSSIBLE: 150    YOUR TOTAL: \_\_\_\_\_

Molecular models are ALLOWED; calculators are NOT ALLOWED. No cell phones or extra paper will be provided. Fill out the exam in pen, use the back of the page if more room is needed.

1. (30 pts) Circle the correct structure for each question. (5 points each)

(a) Which of the following is the worst leaving group?



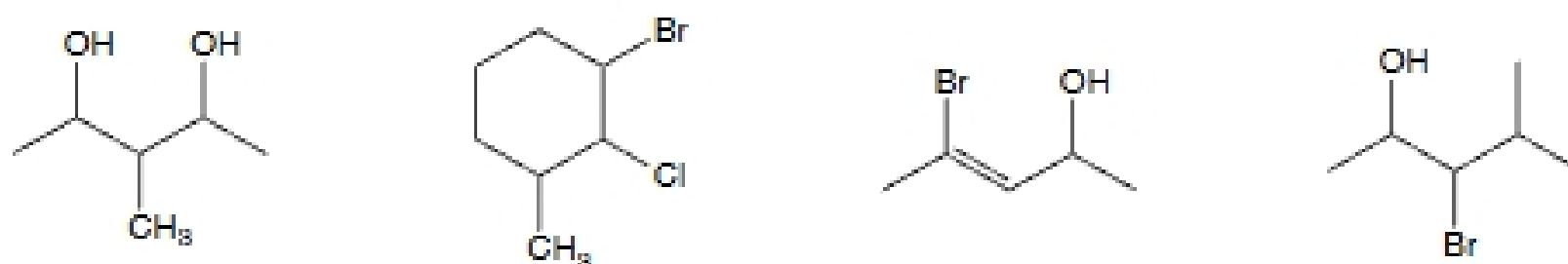
(b) Which of the following molecules will *not* rotate polarized light?



(c) Which of the following alkenes will have the *highest* molecular dipole?



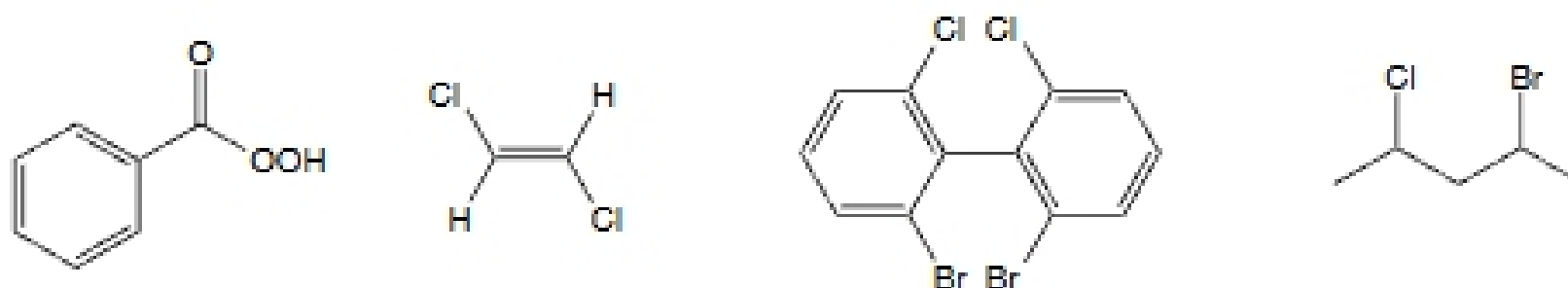
(d) Which of the following molecules will have a maximum of 8 stereoisomers?



(e) Which of the following alkenes would have the *highest* heat of hydrogenation?

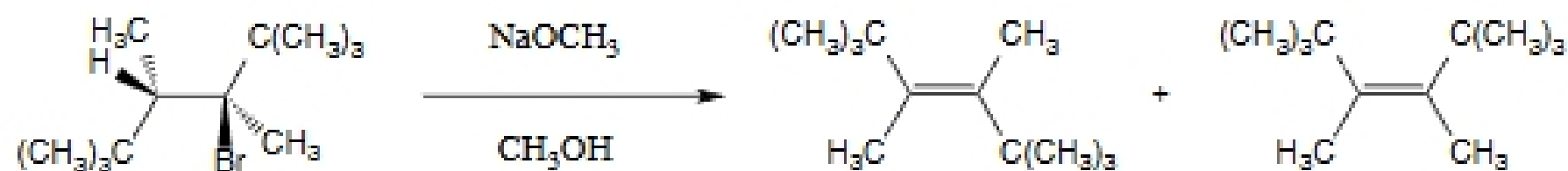


(f) Which of the following has *no* chiral carbons, but is a chiral molecule?

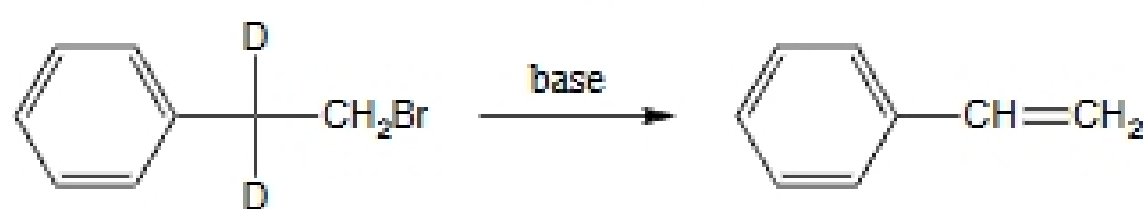


2. (14 points)

(a) When performing the following elimination reaction, only ONE of the two expected products was formed. *Circle* the product that is formed during the reaction, and use a *drawing* (no words needed) to show why this is the product that forms. (7 points)



(b) The  $k_H/k_D$  for the following reaction is 7.11. Briefly (in 2-3 sentences) explain what this value tells us about the mechanism of the reaction? (5 points)



(c) Does the reaction in part b proceed via an E1 or E2 mechanism? (2 points)