

First Midterm Exam  
[chapters 1-4 (Carey textbook)]

CHE201A-C  
Professor Diver and Dr. Clizbe

Sept. 26, 2014  
Fall 2014

Version B  
(exam duration: 1 h 30 min)

NAME: Posted solutions

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

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

Problem	Possible Points	Points
2	30	
3	22	
4	26	
5	24	
6	26	
7	29	
	Periodic Table	

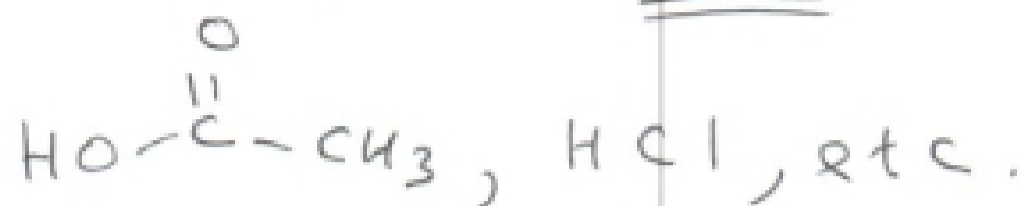
TOTAL POSSIBLE: 150    YOUR TOTAL: \_\_\_\_\_

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.

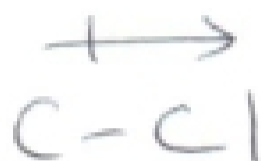
(30 pts) Provide an example for each of the following terms. Use structures where appropriate. (5 pts each).

(a) a Bronsted acid

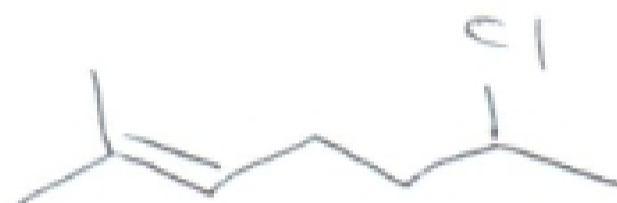
Not a definition, but an example



(b) a polar, covalent bond



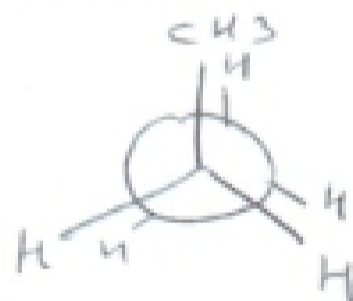
(c) give the line-angle drawing of  $(\text{CH}_3)_2\text{C}=\text{CHCH}_2\text{CH}_2\text{CH}(\text{Cl})\text{CH}_3$



(d) a molecule with a +4 oxidation state on the carbon atom



(e) a Newman projection showing an eclipsed conformation of propane

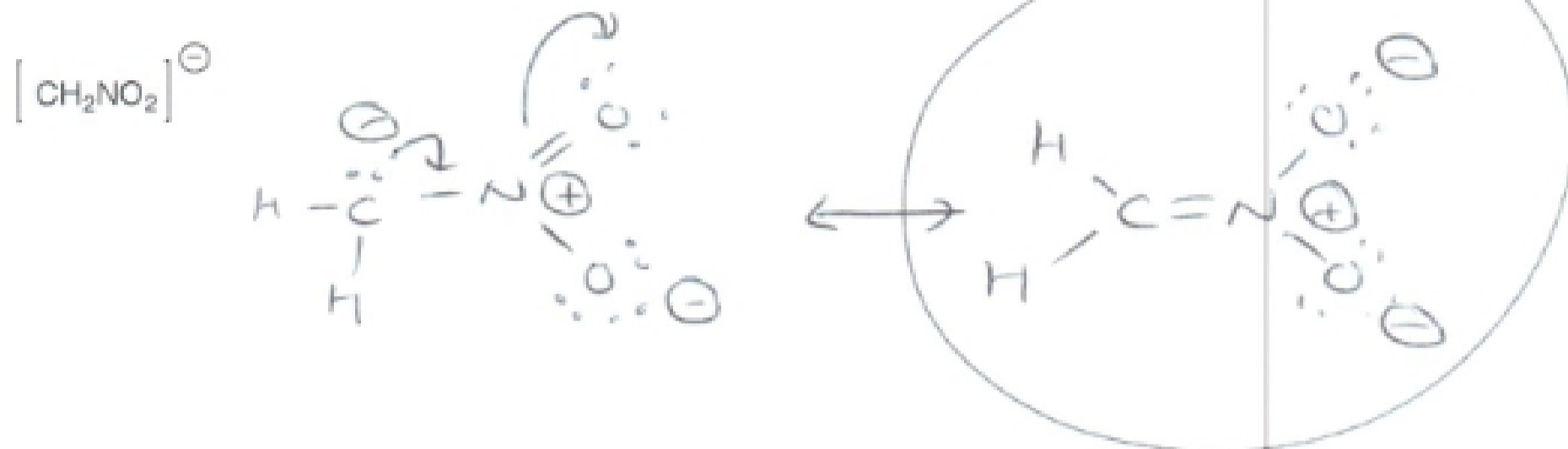


(f) an inorganic reagent that converts a primary alcohol into an alkyl bromide



2. Lewis structures and resonance (22 points)

(a). For the ion shown, draw two valid resonance structures and CIRCLE the most important contributor. Use the arrow formalism to indicate electron movement. (10 points)



(b) For the ion shown, draw a resonance structure and CIRCLE the most important contributor. Use the arrow formalism to indicate electron movement. (6 points)



(c) For each of the indicated atoms, indicate hybridization and geometry in each of the corresponding boxes. (6 pts)

