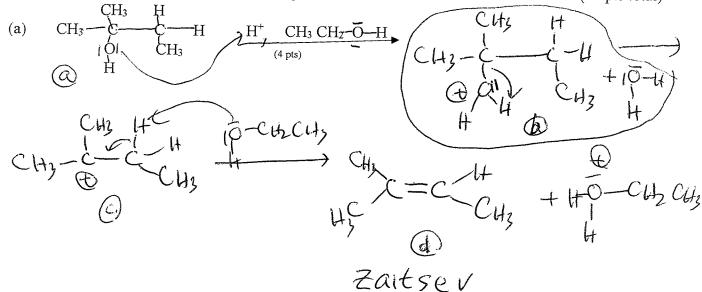
=	
Organic Chemistry I (CHM 335) Fall 16 Dr. Hahn M	W 12:30pm Ouiz II 10/10M Exam #
Sign Name KPM	Print Nama
Please show work on all questions for partial credit even	on questions which do not specify. (50 total pts)
1. For the following molecule, draw the appropriate	
Original molecule	(a). Enantiomer of original molecule
CI)	Q
Br Cl	CHE C 111
Br Cl	ce 4
(b). draw a Fischer projection formula	(c). diastereomer of the Fisher projection
of the original molecule (showing the 2 chiral centers)	formula you drew in (b)
C 43	CH3 CH3
H*_Cl	Cett H-Cl
Q * H	cett Htc
62 C	
2. name the following molecule (12 pts)	150
CH ₃ CH ₂ CH ₂ -CH-CH ₃ Z-6-CV	Noro-3-methylhept-3
	6-chloro ene
3 Match the labeling in the following parenthesis. Each paletter may be used once, no time or multiple times (A) space (C) unhybridged p orbital (D) a bond (E) = bond (E)	arenthesis can hold one to multiple letters. Each
(C) unhybridzed p orbital (D) π bond (E) σ bond (F) s σ	orbital (8 pts, 2 pts each)
(C) orbital	
	(€) bond
$H \sim 1$	H
C. C	
H	
	H
	(B) orbital
(D) bond	7 7 5 5 5 6 6

3. Extra Credit: Give the reaction mechanism of the following reaction assuming (E 1) mechanism. Must show all steps stepwise. Just showing the intermediate is NOT a MECHANISM. (10 pts total)



(b) Give the energy diagram. You MUST show an energy position for **EVERY INTERMEDIATE** in the reaction. (2 pts)

(c) Write the rate law for the reaction showing the actual molecule in the reaction. (2 pts)

(d) Show a 3D structure of the carbocation intermediate (using wedge, dash and line 3D drawing)(1 pt)

(e) What would be a Hoffmann product for the molecule if you showed the Zaitsev product above? What would be a Zaitsev product if you showed the Hoffmann product above? (1 pt)

Organic Chemistry I (CHM 335) Fall 16 Dr. Hahn MW 12:30pm Quiz II 10/10M Exam # Sign Name

Print Name

Please show work on all questions for partial credit even on questions which do not specify. (50 total pts)

(a).

1. For the following molecule, draw the appropriate (30 pts total, 10 pts each)

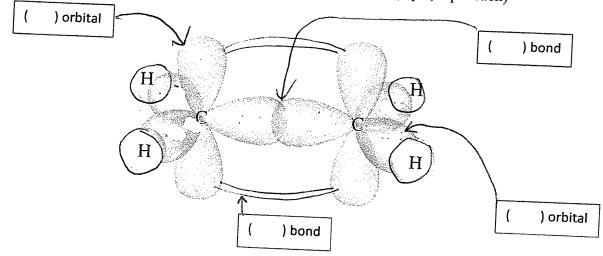
Original molecule ″ιι ι ι ι CH-CH3 Br

- draw a Fischer projection formula (b). of the original molecule (showing the 2 chiral centers)
- diastereomer of the Fisher projection (c). formula you drew in (b)

Enantiomer of original molecule

2. name the following molecule (12 pts)

3 Match the labeling in the following parenthesis. Each parenthesis can hold one to multiple letters. Each letter may be used once, no time or multiple times (A) sp³ hybridized orbitals (B) sp² hybridized orbitals (C) unhybridzed p orbital (D) π bond (E) σ bond (F) s orbital (8 pts, 2 pts each)



- 3. Extra Credit: Give the reaction mechanism of the following reaction assuming (E 1) mechanism. Must show all steps stepwise. Just showing the intermediate is NOT a MECHANISM. (10 pts total)

(b) Give the energy diagram. You MUST show an energy position for **EVERY INTERMEDIATE** in the reaction. (2 pts)

reaction coordinate

- (c) Write the rate law for the reaction showing the actual molecule in the reaction. (2 pts)
- (d) Show a 3D structure of the carbocation intermediate (using wedge, dash and line 3D drawing)(1 pt)

(e) What would be a Hoffmann product for the molecule if you showed the Zaitsev product above? What would be a Zaitsev product if you showed the Hoffmann product above? (1 pt)