

CHM 138H Term Test 2 (November 19<sup>th</sup> 2012) Answer Sheet

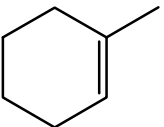
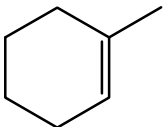
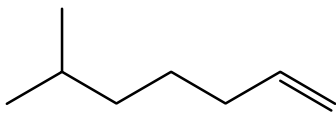
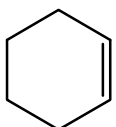
NAME: **MODEL ANSWERS** Student #: \_\_\_\_\_ Tutorial Gp. #: **T**\_\_\_\_\_

Part I. (20 marks). Multiple Choice Answers:

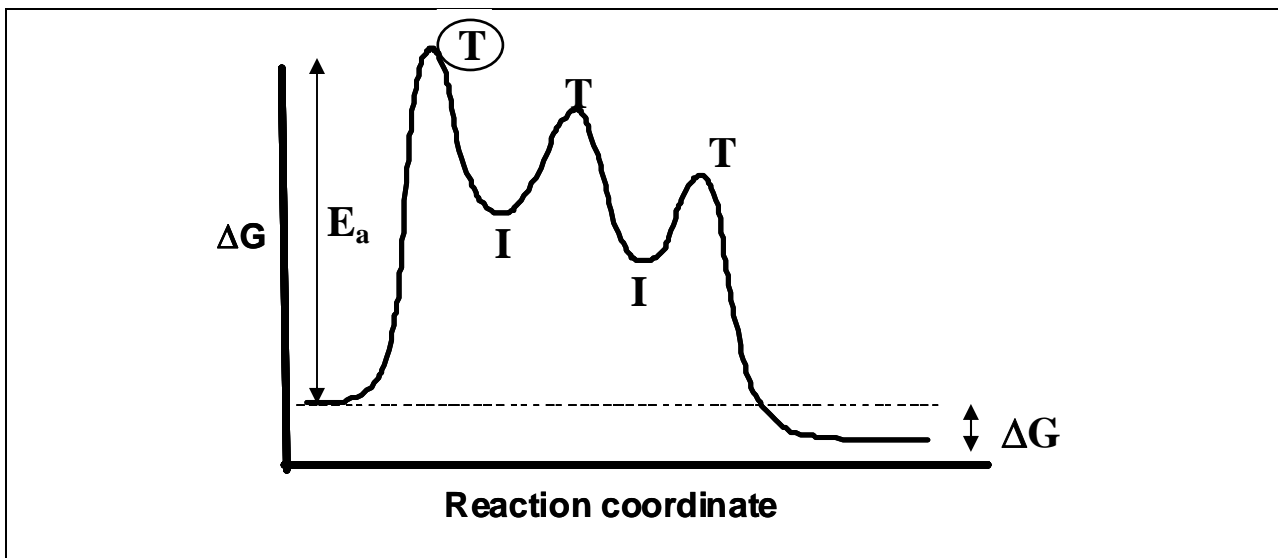
Question	1	2	3	4	5	6	7	8	9	10
Answer	b	c	c	a	c	e	e	b	e	c

Part II. Short Answers:

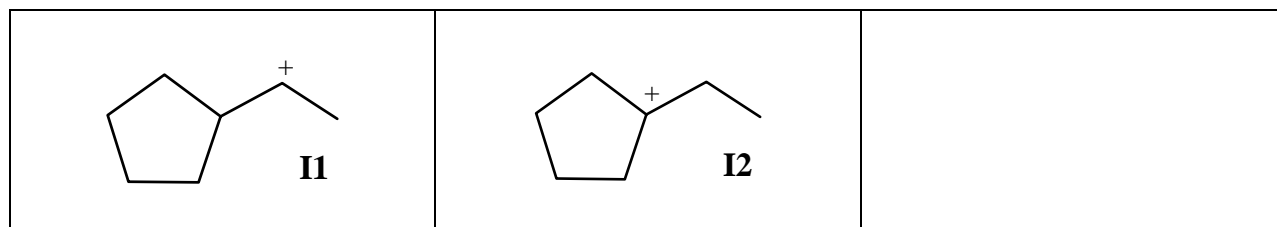
1. (20 marks, 5 marks each). Draw **skeletal structures** of the alkenes **F, G, H,** and **J** for the reactions in Q1. Under the structure of each alkene that you have drawn, write "*regio*" if the reaction as shown is regioselective. Write "*syn*" or "*anti*" if the reaction is stereospecific and exhibits syn or anti addition respectively.

<b>F</b>	 <b>regio, syn</b>	<b>G</b>	 
<b>H</b>	 <b>regio</b>	<b>J</b>	 <b>syn</b>

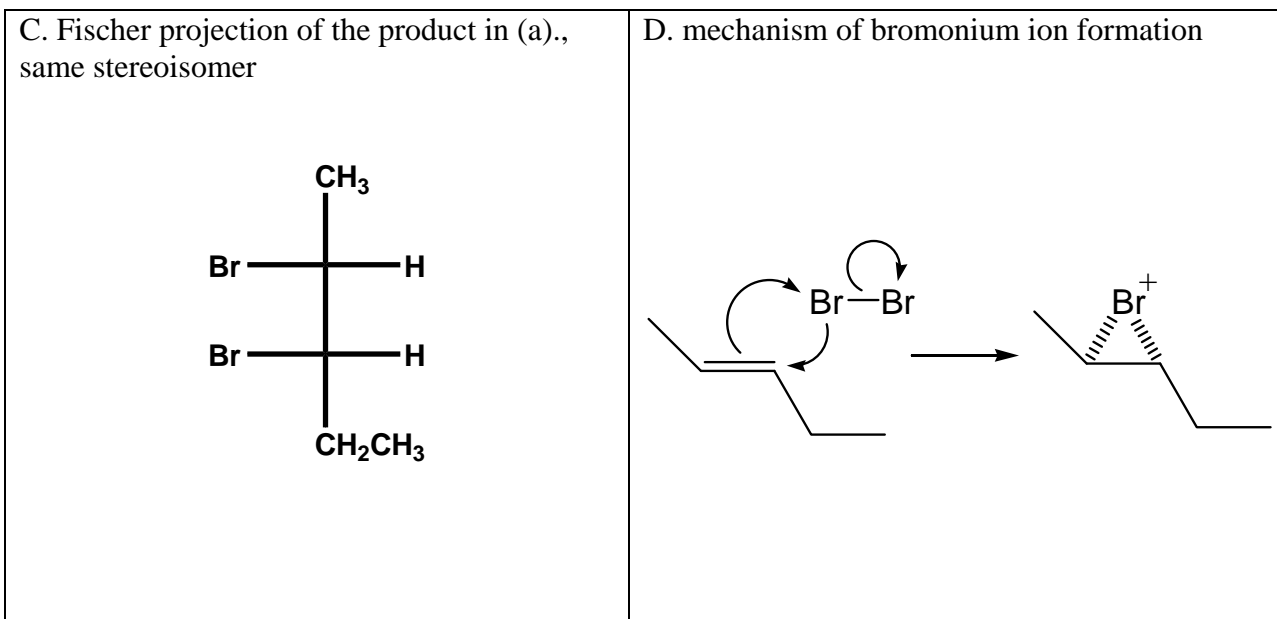
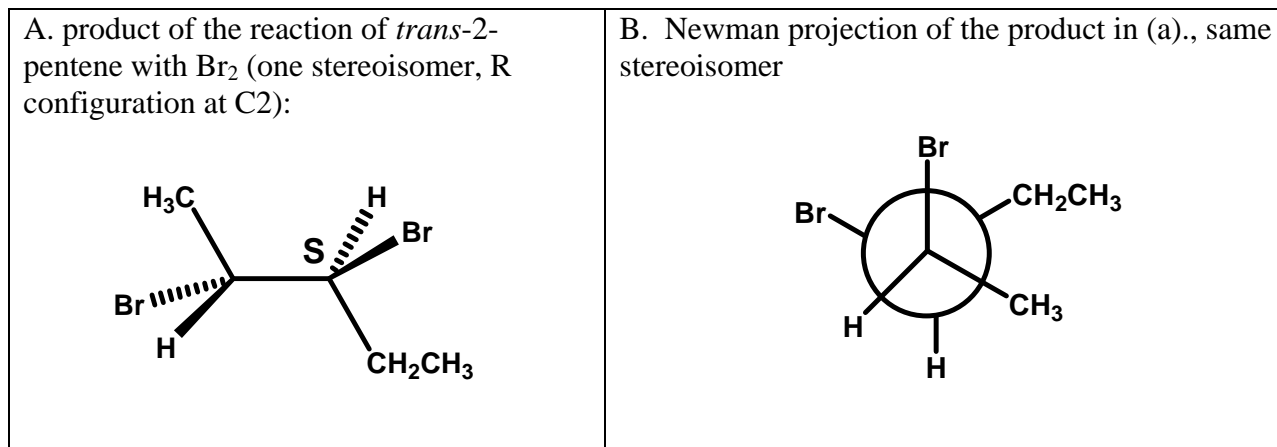
2. (12 marks). (a). Label the transition states "T" and the intermediates "I". Circle the letter "T" representing the transition state for the rate limiting step. On the diagram, indicate the change in free energy for the overall reaction, and also indicate the activation energy for the rate limiting step.



(b). In the boxes below, draw **skeletal structures** for the intermediates formed in the reaction. There may be more boxes than intermediates. Label the structures "I1" for the first intermediate, "I2" for the second intermediate, etc.



3. (18 marks).



**For Markers Only:**

Question	MC/20	Q1/20	Q2/12	Q3/18	Total/70
<b>Mark</b>					