Last Name ANSWER	First Name KEY	MI
Student ID Number:		*Total Score* 25 / 25
Circle the name of your TA: HEATHER / KAUSHIK / CARI / RYAN		
Discussion Section – Day:	**Time:**	

Chem 30A Fall 2005

MIDTERM #2 SUPPLEMENT

(15 Min)

Wed Nov 30th

INTERPRETATION OF THE QUESTIONS IS PART OF THE EXAM – DO NOT ASK FOR THE QUESTIONS TO BE EXPLAINED TO YOU

ONLY ANSWERS WRITTEN IN THE BOXES PROVIDED WILL BE GRADED

****DO NOT OPEN THIS EXAM UNTIL INSTRUCTED TO DO SO****

Total	25 / 25

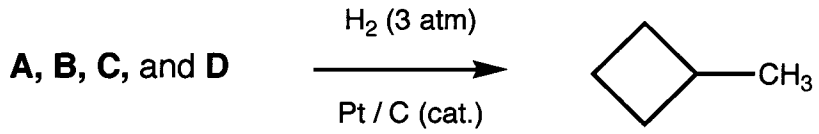
"We didn't lose the game; we just ran out of time."

- Vince Lombardi

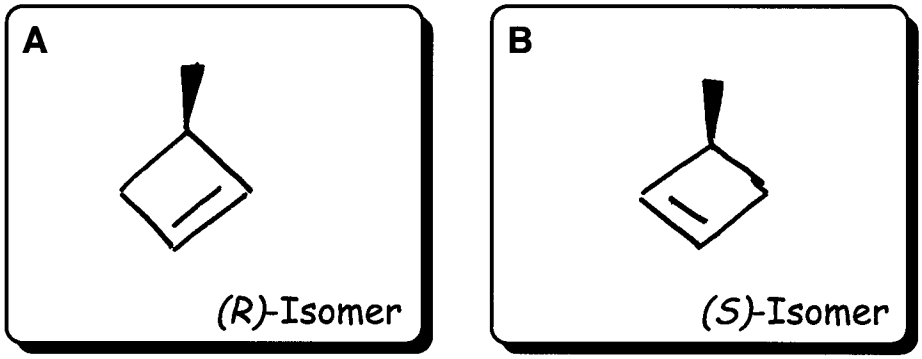
"All truth passes through three stages. First, it is ridiculed. Second, it is violently opposed. Third, it is accepted as being self-evident."

- Arthur Schopenhauer

Q1. Four different cycloalkenes (**A–D**), each with the molecular formula C_5H_8, will yield methylcyclobutane when subjected to catalytic hydrogenation (H_2/ Pt catalyst) – as shown below.

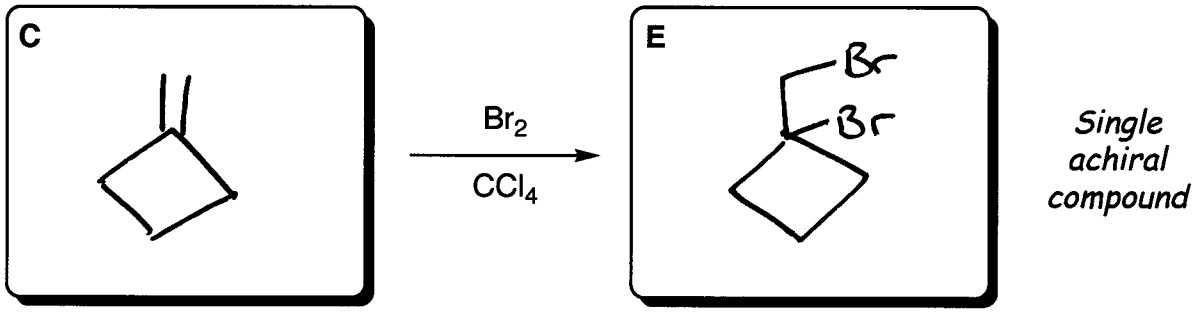


(**a**) Two of these cycloalkenes constitute a pair of enantiomers; the absolute configuration of the stereogenic center in compound **A** is (*R*) and in **B** it is (*S*). Draw these compounds below. (6 pt)

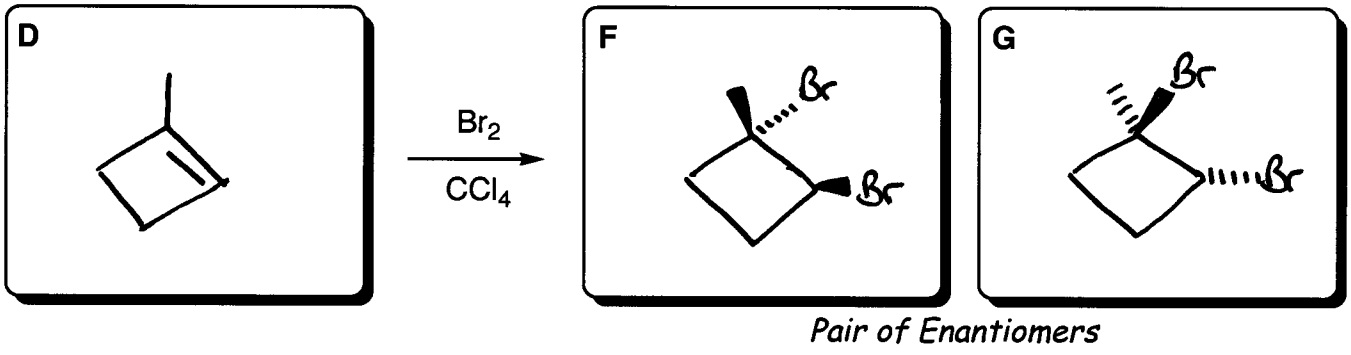


(**b**) When cycloalkenes **C** & **D** are reacted with Br_2 in CCl_4, different results are observed:

(i) Cycloalkene **C** reacts to form a single achiral product (**E**) – draw these compounds in the appropriate boxes below: (4 pt)

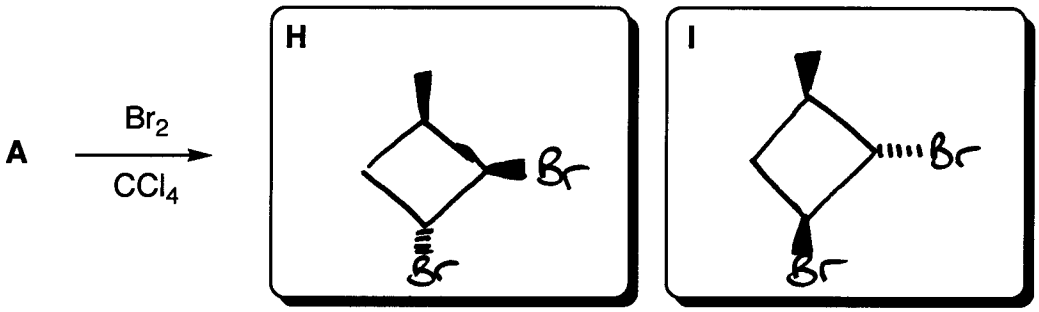


(ii) Cycloalkene **D** reacts to form a pair of enantiomers (**F** & **G**) – draw these compounds in the appropriate boxes below (note – the labels **F** & **G** are arbitrary): (6 pt)



This question is continued on the next page...

(c) Cycloalkene **A** reacts with Br_2 in CCl_4 to form two different CHIRAL products (**H** & **I**) – draw these compounds in the appropriate boxes below (note – the labels **H** & **I** are arbitrary): (6 pt)



Two different CHIRAL compounds

(d) Circle ONE of the following words/phrases that best describes the relationship between compounds **H** & **I**: (3 pt)

CONSTITUTIONAL ISOMERS

THE SAME

CONFORMATIONAL ISOMERS

ENANTIOMERS

DIASTEREOISOMERS