

(Closed book, no models)

Name _____
 (Please print) Last First Middle initial
 Last 4 digits of Students ID Number: _____

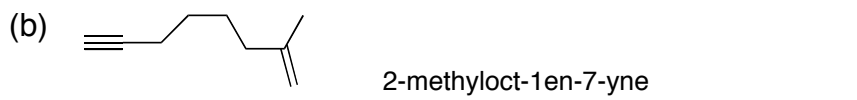
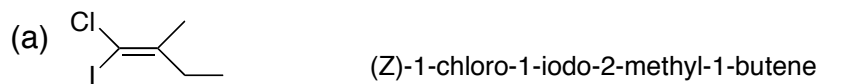
TA _____

- 1) This exam consists of 5 pages (including this page) and 6 questions.
- 2) Do not turn the pages until 3:10 p.m.
- 3) Turn in your exam to one of the teaching staff by 4:00 p.m.
- 4) Put your 4 digits ID in the upper right corner of the next 4 pages. Be sure you have pages 2-5.
- 5) Please answer clearly in the spaces provided. The back of the page is for scratch work only.
- 6) Any request for re-grading should be done according to the TA's instruction.

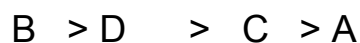
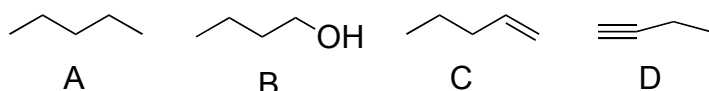
	1 H								2 He
2	3 Li	4 Be		5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg		13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca		31 Ga	32 Ge	33 As	34 Se	35 Br	35 Kr
5	37 Rb	38 Sr		49 In	50 Sn	51 Sb	52 Te	53 I	53 Xe

Page	Score
2	/22
3	/32
4	/36
5	/10
Total	/100

1. (8pts) Name the following in IUPAC:



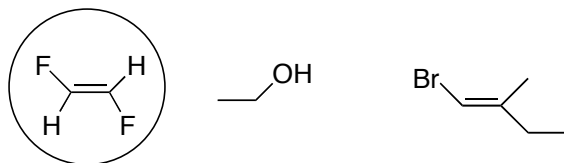
2. (a) 4 pts. Rank the following compounds in order of increasing acidity.



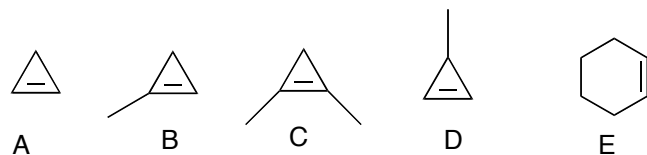
most acidic

least acidic

(b) 2 pts. Circle the least polar compound.



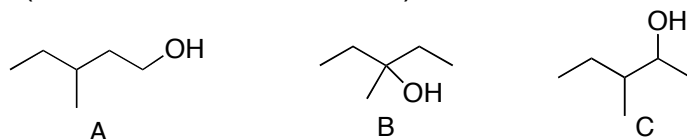
(c) 5pts. Rank the following compounds in order of increasing stability.



most stable

least stable

(d) 3 pts. Arrange the following alcohols in order of their reactivity toward acid-catalyzed dehydration (with the most reactive first).

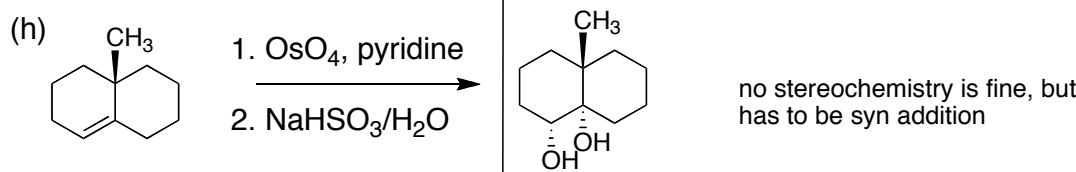
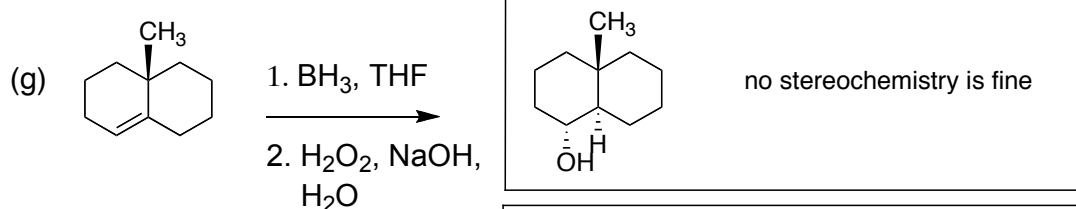
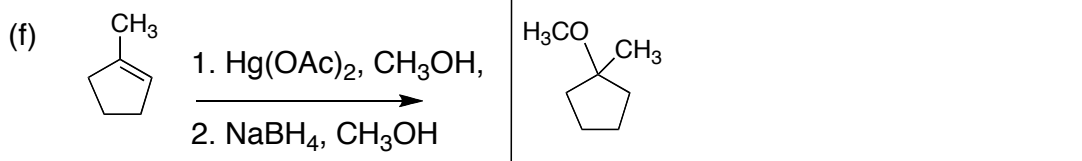
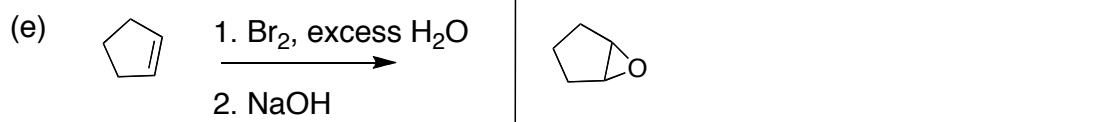
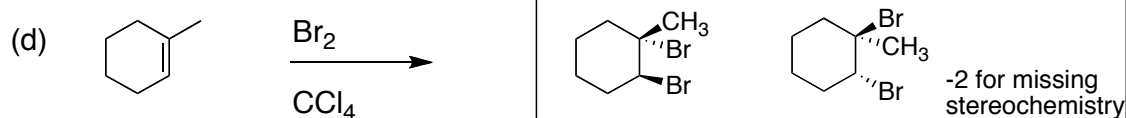
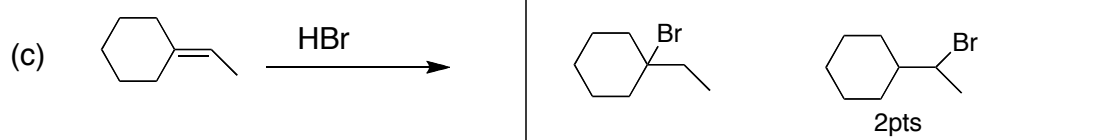
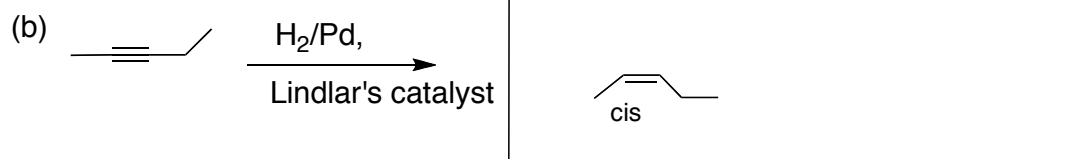
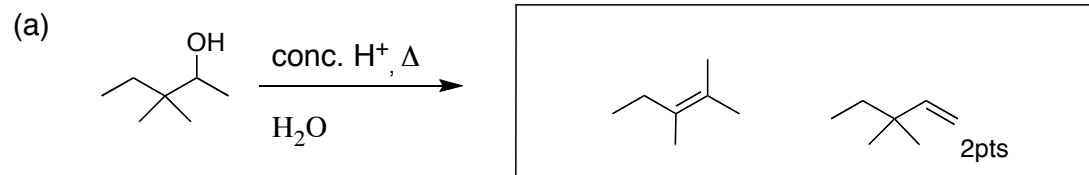


most reactive

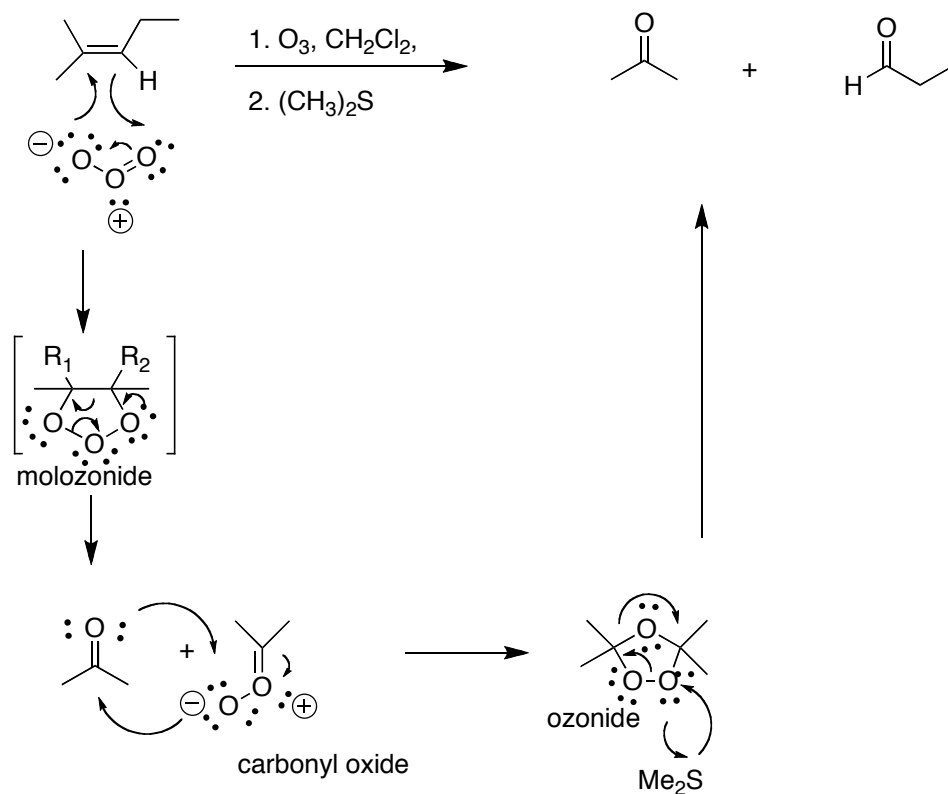


least reactive

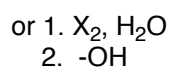
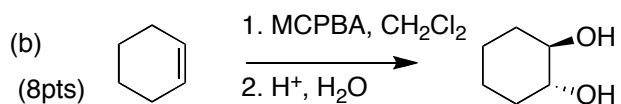
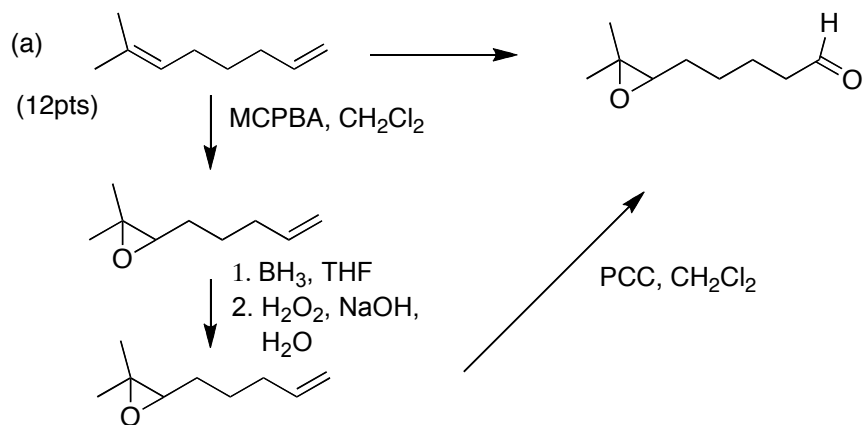
3. (32pts) Please give the expected **major** product(s) for the following reactions. Unless mentioned otherwise, you can assume that all reagents are present in one mole. If there is no reaction, please write NR. Show stereochemistry where necessary.



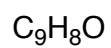
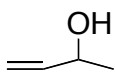
4. (16pts) Write a complete, step-wise, detailed mechanism for the following reaction.



5. Please show how you would carry out the following transformations.



6. 10pts. Provide a possible structure using the following spectra.



degree of unsaturation $\Omega = 1$

