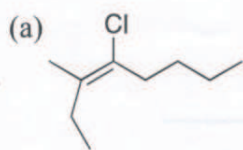
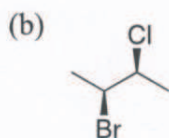


1. A) Give IUPAC names for the following compounds (Specify stereochemistry). (6 pts).



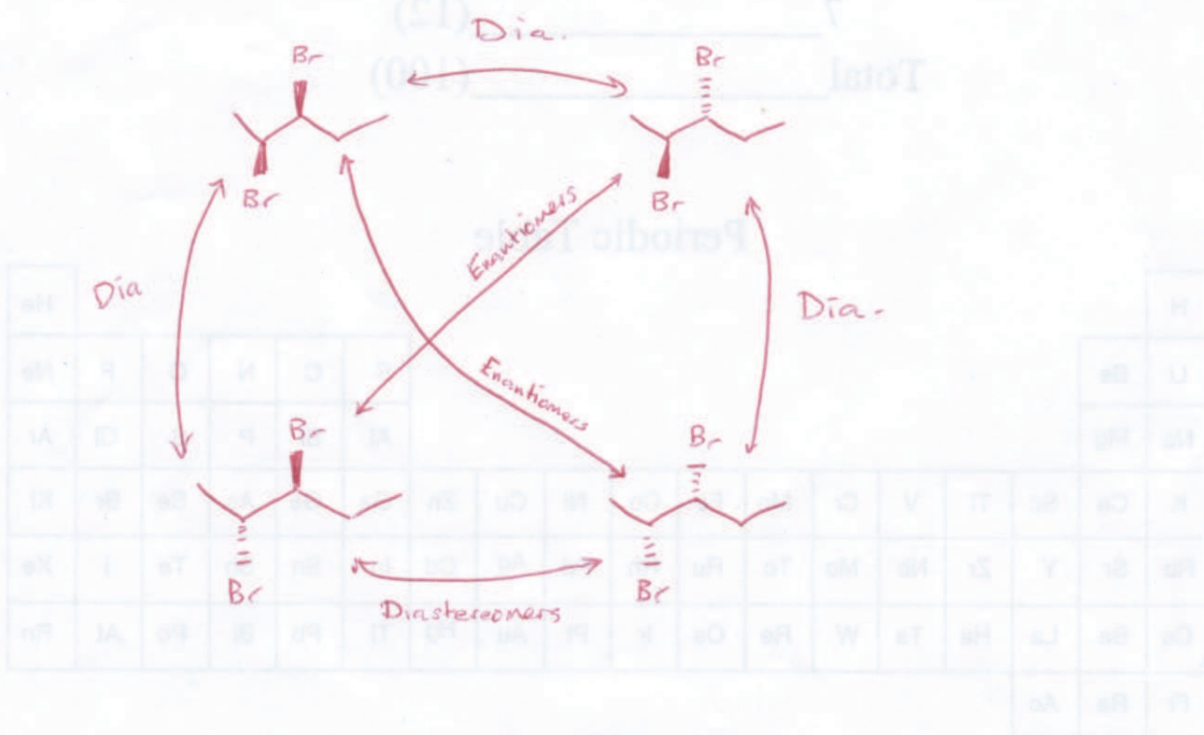
(E)-4-chloro-3-methyl-3-octene



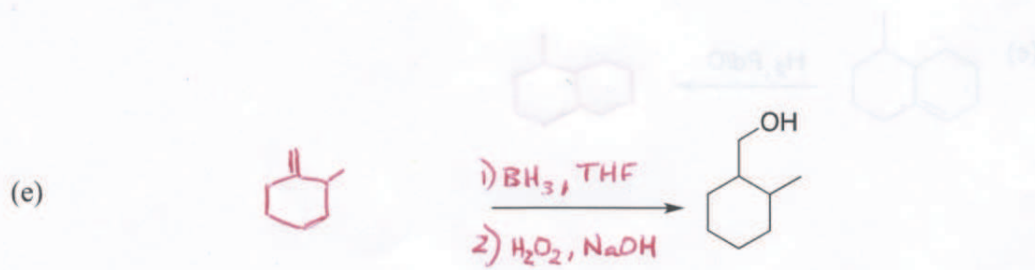
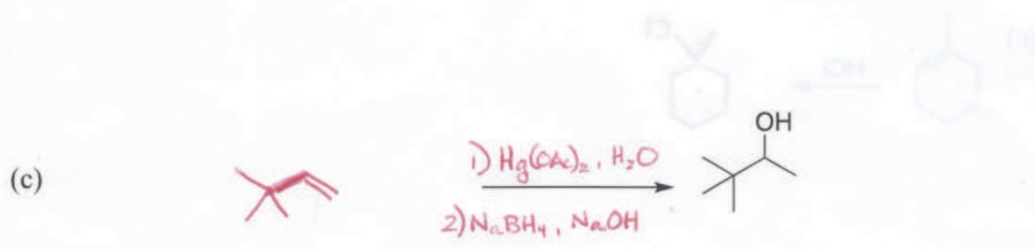
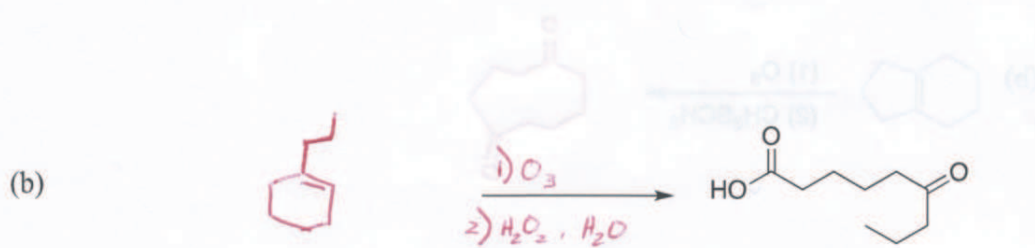
(2S,3S)-2-bromo-3-chlorobutane

B) Draw all stereoisomers of the following compounds (8 pts). Describe the relationship between each pair of stereoisomers (6 pts).

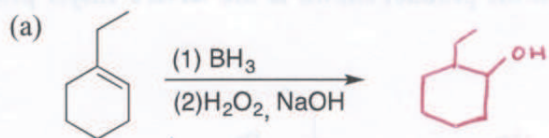
2,3-dibromopentane



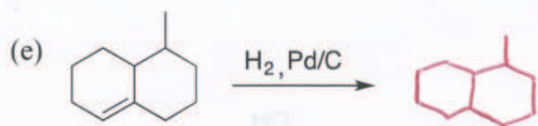
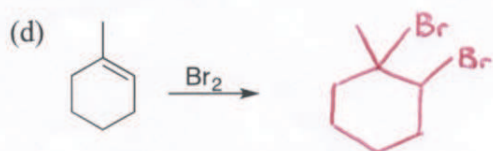
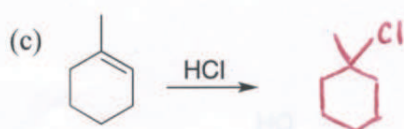
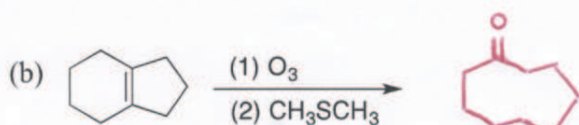
2. A) Provide an alkene reactant (**ONLY** contains carbons and hydrogens) and necessary reagent(s) for each reaction (Be sure that the product shown is the **ONLY** major product) (20 pts).

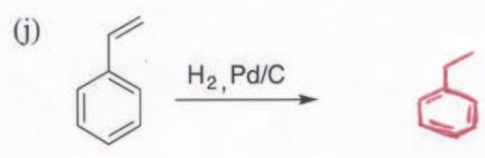
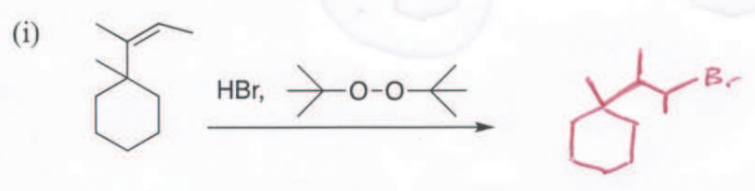
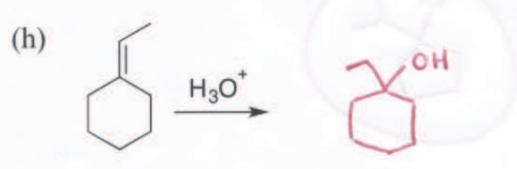
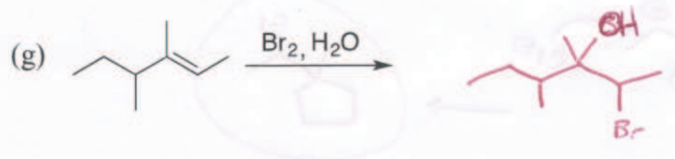
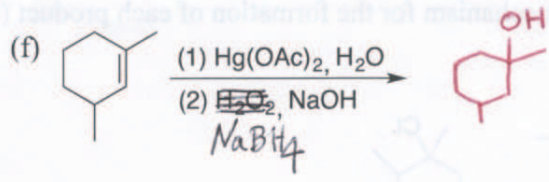


B) Provide the major products of the following reactions (30 pts).



(it is not necessary to specify the stereochemistry in any of the products).





4. Using the curved arrow notation, suggest a mechanism for the formation of each product (30 pts).

