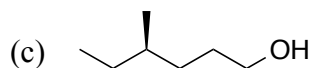
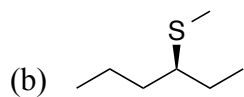




1. A) Give IUPAC names for the following compounds, including stereochemistry if appropriate (6 pts).



- B) Draw structures corresponding to the following IUPAC names, including stereochemistry if appropriate (8 pts).

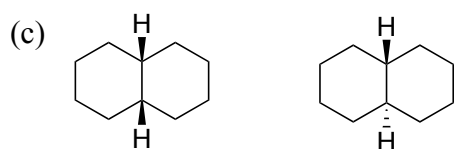
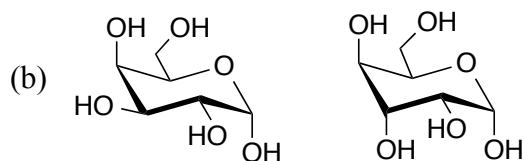
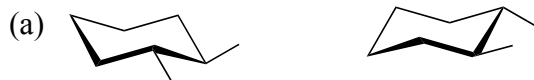
(a) 3-methyl-1-butanethiol

(b) (*R*)-methyloxirane

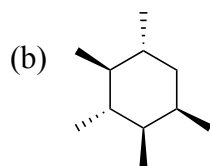
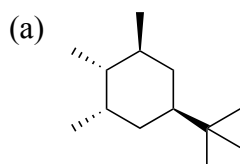
(c) (*E*)-5-iodo-2-pentene

(d) bicyclo[3.1.0]hexane

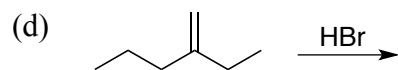
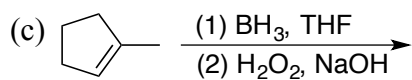
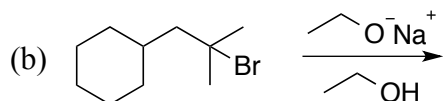
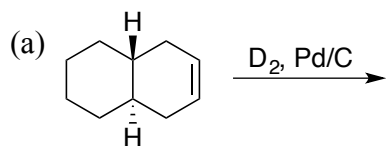
C) Describe the relationship between each pair of stereoisomers (6 pts).

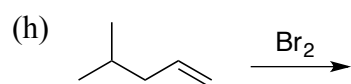
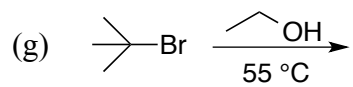
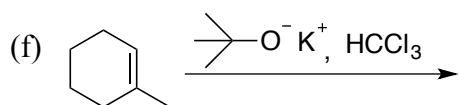
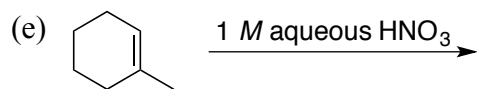


D) Draw a structure for each of the following compounds in its more stable chair conformation (4 pts).

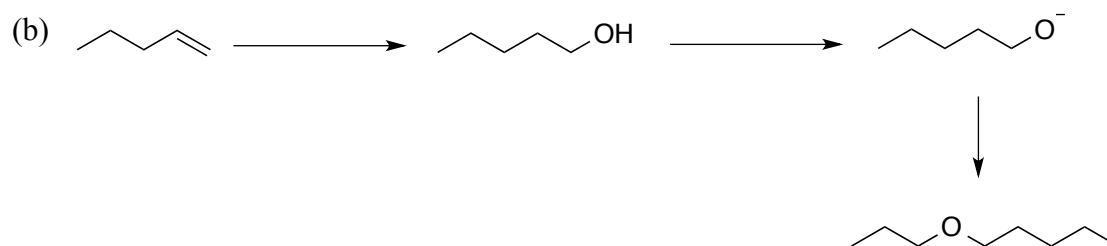
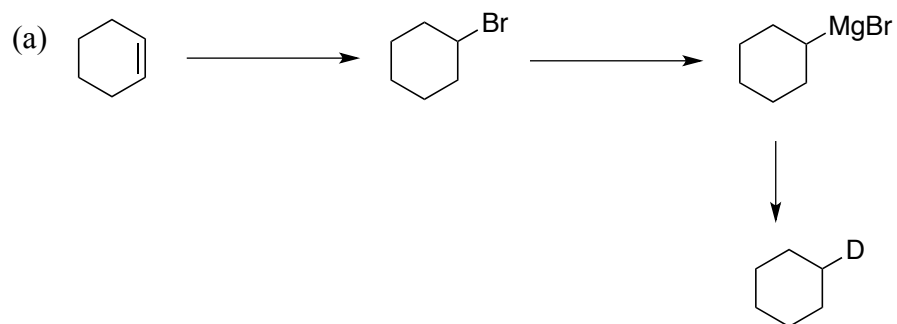


2. A) For each of the following reactions, provide the structures of all major products, including stereoisomers (32 pts).





B) Give the missing reactant(s) in each of the following equations (14 pts).



3. Using the curved arrow notation, suggest a mechanism for the formation of each of the products in the following reactions (30 pts).

