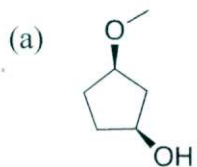
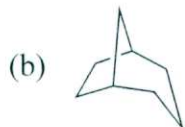


1. A) Give IUPAC names for the following compounds (Be sure to indicate stereochemistry when appropriate) (6 pts).



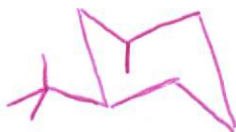
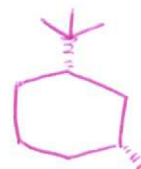
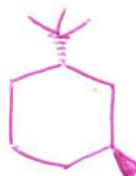
(1S,3R)-3-methoxycyclopentanol



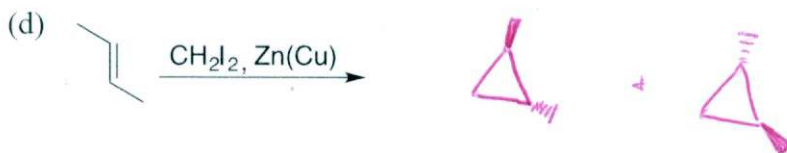
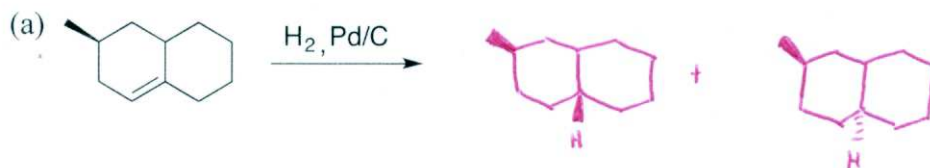
bicyclo[3.2.1]octane

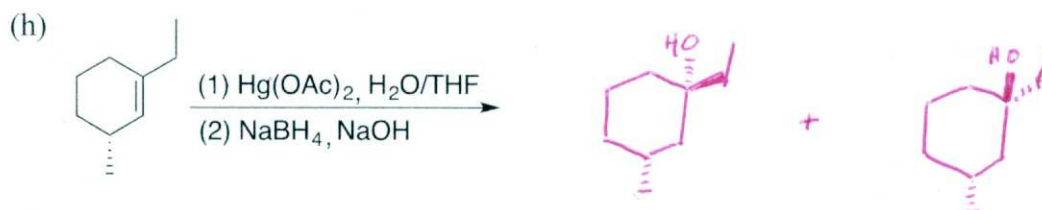
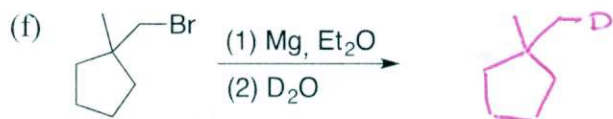
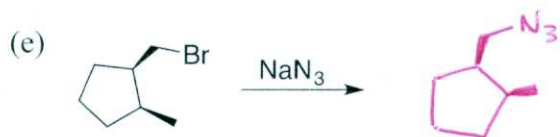
- B) Draw all stereoisomers of the following compound (8 pts). Provide the most stable chair conformation for each stereoisomer (8 pts).

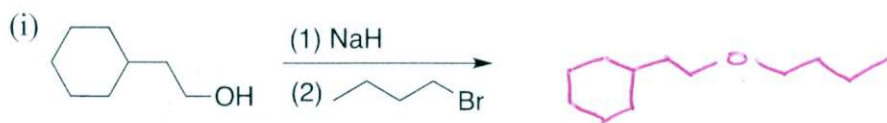
1-*tert*-butyl-3-methylcyclohexane



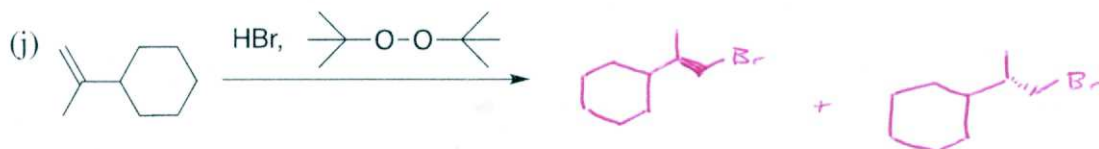
2. Provide the major products of the following reactions (Be sure to indicate stereochemistry when appropriate) (48 pts).



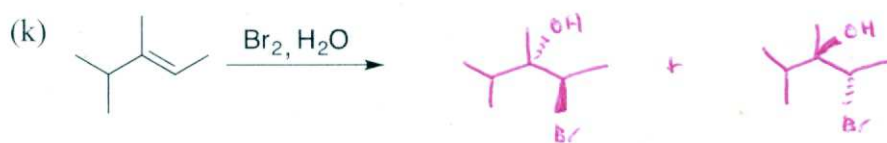




No stereo (-2)



Regio is wrong (-2)



Br₂ addn = (-3)



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

