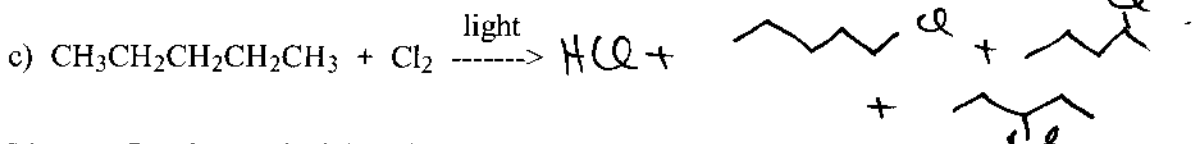
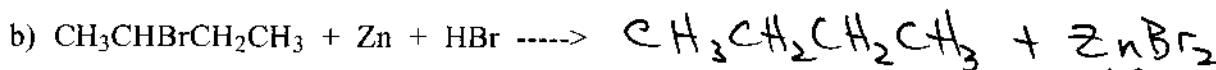
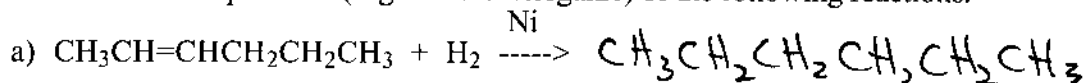
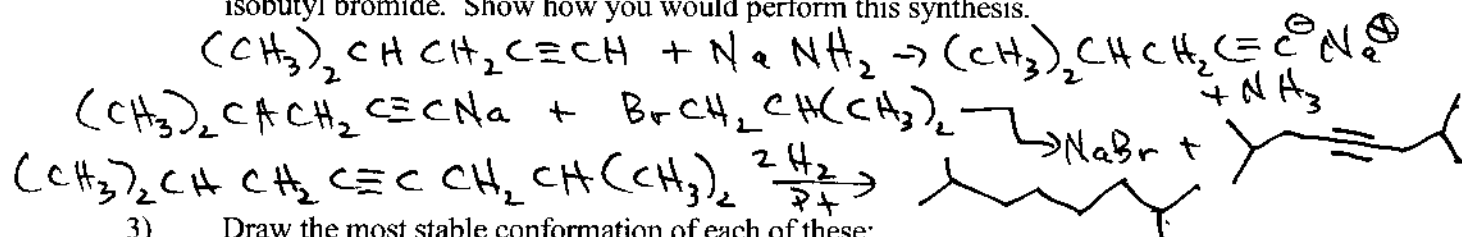


- 1) Predict all of the products (organic and inorganic) of the following reactions.

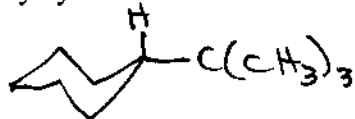


- 2) It's your first day on the job at the Gold Rush Chemical Co., and the boss tells you to make some 2,7-dimethyloctane. According to the boss, the stockroom has any chemical you might want. The boss also says that you must use up the stockroom's excess inventory of isobutyl bromide. Show how you would perform this synthesis.

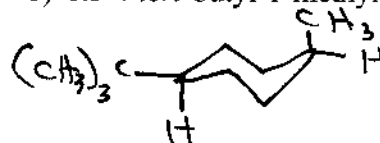


- 3) Draw the most stable conformation of each of these:

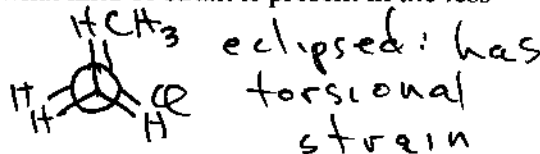
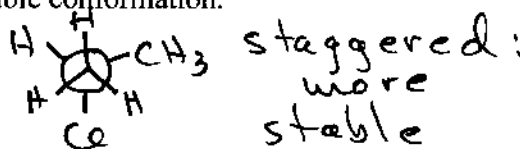
a) *tert*-butylcyclohexane



b) *cis*-4-*tert*-butyl-1-methylcyclohexane

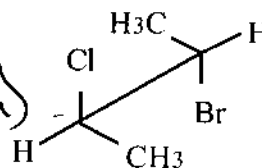


- 4) Draw both the eclipsed and staggered conformations of 2-chloropropane in Newman projection. Indicate which is more stable, and state what kind of strain is present in the less stable conformation.



- 5) Give the IUPAC name of the compound shown. Also, give the name of the conformation in which the compound is drawn.

2-bromo-3-chlorobutane
(staggered conformation)



- 6) Which of the following has the highest boiling point?

A. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$ B. $\text{CH}_3(\text{CH}_2)_3\text{CH}_3$ C. $(\text{CH}_3)_2\text{CHCH}_2\text{CH}_3$ D. $(\text{CH}_3)_2\text{CCH}_3$